#### Jo.Wheat

**From:** perry johnston <perry@dockmastersonline.com>

Sent: Thursday, January 30, 2014 9:32 AM

To: Jo.Wheat

**Subject:** Exhibit #6 from the Public Hearing on Carolina Water System Rate Increase request for

the Lake Wylie / River Hills Area

**Attachments:** River Hills System Probable Cost.pdf; River Hills Utility Comparative Sales Report.pdf;

CWS Preliminary Acquisition Study.pdf; Lake Wylie Water Sewer Service.pdf; CWS

Estimate Value.pdf

Follow Up Flag: Follow up Flag Status: Flagged

Ms. Wheat,

Please find attached the information concerning preliminary Acquisition Studies and Cost estimates from York County concerning possible purchase of the Carolina Water System in the Lake Wylie / River Hills area of York County. This was mentioned in my statements during the hearing held in Dec.

12, 2013 at the River Hills Community Church Family Life Center. Sorry for the delay in getting this information to you. Thank you for your help in this matter. We are looking at what is going on over in Tega Cay with raw sewage flowing into Lake Wylie from the same company and the same thing has happened in the River Hills area. The PSC must help correct this major problem for this water flows to Columbia and on to the coast effecting everyone along the way.

Sincerely,

W. Perry Johnston 5001 Lake Mist Drive Clover/Lake Wylie, SC 29710

----Original Message----

From: Sheffield, Teria [mailto:Teria.Sheffield@yorkcountygov.com]

Sent: Monday, January 13, 2014 3:02 PM

To: <a href="mailto:perry@dockmastersonline.com">perry@dockmastersonline.com</a> Subject: River Hills/CWS Information

Hi Perry,

Sorry I missed your call last week. Here's the information that we were able to find regarding River Hills/CWS.

Take Care,

Teria

Teria G. Sheffield Executive Assistant to the County Manager 6 South Congress Street York, SC 29745 (803) 684-8599

EXHIBIT 2/5/14 6 6 2013-275-WS

#### teria.sheffield@yorkcountygov.com

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#### HARTMAN & ASSOCIATES, INC. - SOUTHEAST

PRINCIPAIS:

James E. Christopher, P.E. Charles W. Drake, P.G. Gerald C. Hartman, P.E. Mark I. Luke, P.S.M. Mark A. Rynning, P.E. Harold E. Schmidt, Jr. P.E. William D. Musser, P.E. engineers & management consultants

ASSOCIATES:

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Roderick K. Cashe, P.E.
Jon D. Fox, P.E.
James E. Golden, P.G.
fixoy E. Layson, P.E.
Alkida E. Oller, M.S.
andrew II. Woodcock, P.E.
andrew II. Woodcock, P.E.

SENIORASSOCIATES:

C. Zachary Fuller, P.E.

November 24, 1998

HAI #98-225.02

Mr. Al Greene Assistant County Manager York County P. O. Box 66 York, SC 29745

Subject:

Range of Probable Cost for River Hills System

Dear Mr. Greene:

Pursuant to your request during our November 20, 1998 telephone conversation and based on the preliminary work performed to date, Hartman and Associates, Inc. (HAI) offers the following information:

- 1. The probable range of cost to purchase the River Hills system is \$4.25 Million to \$6.25 Million.
- 2. The capital improvement dollars previously stated as \$0.6 million were a conservative estimate based on past experience. A range of \$0.25 million to \$0.5 million would be expected dependent upon the aggressiveness of the County to upgrade the system. We think these dollars would be spent in upgrades to the main plant lift station and in correcting some infiltration areas. Utilities, Inc.'s CIP has \$100,000 for unidentified maintenance and repair items.
- 3. Additional information relative to operational expenses of Utilities, Inc.'s River Hills system has not been obtained since our last meeting in early October. We have had discussion regarding more detail information and have been invited to acquire this information from their Corporate Office. HAI is awaiting County authorization to further pursue this information and to continue work on the valuation of the system.

Previously, proposals were submitted to assist the County in acquiring the system. We stand ready to assist in this matter; and would welcome the opportunity, to work on this important project. Should you have any questions regarding this project, please do not he sitate to call.

Very Truly Yours,

Hartman & Associates, Inc.

Larry W. Mitchell, P.E. Regional Manager

LWM/chs/98-225.02/corresp/ Green.lwm

Gerry Hartman, HAI - Orlando cc:

#### RIVER HILLS COMPARABLE SALES SUMMARY<sup>(1)</sup>

•	Partial Analysis Capital Improvements Transaction and Financing Costs Debt Service Reserve	\$4.9 Million \$0.6 Million (Allowance) \$0.25 Million \$0.45 Million \$6.2 Million ±	
•	Net Revenues Assessments Subtotal	0.31 <u>0.15</u> 0.46	(Present Rates)
3 Yea	rs Assume Net Revenues Assessments Subtotal	0.36 <u>0.16</u> 0.52	Growth @ 3.3%

Coverage 0.52/0.44 – 1.18 Coverage with 50% Capital Fees 0.63/0.44 – 1.43

Summary – Existing rates with a tax resulting in annual revenues of \$150,000/year with a utility customer growth rate of 3.3% per year funds the \$4.9 Million purchase price. Futures paid to seller will reduce capital fees.

If a purchase price greater than the \$4.9 Million is arrived at, then either indexing of utility rates or a commensurate utility rate increase will be needed.

(1) Note an appraisal is needed with a due diligence investigation.

#### UMILITIES, INC.

2335 Sanders Road Northbrook, Illinois 60062.6196 Talgilione 847 498-05440 Facsimile 947 498-22166

October 6, 1998

Mr. Gerald Hartman, P.E. Hartman & Associates 201 East Pine St.- Suite 1000 Orlando, PL 32801

#### De&# Jerry:

As you requested, this letter will confirm our Company's interest and cooperation in exploring a sale to York County of both our Riverhills and Tega Cay water and wastewater utility systems. Execution of mutually acceptable purchase and sale agreements is contemplated to occur prior to December 31, 1998, with a closing in early 1999.

It is our understanding that it is the County's intention to initially acquire the aforementioned utility systems, and thereafter transfer the Tega Cay utility facilities to the City of Tega Cay. We acknowledge that the County is working cooperatively with the City in this endeavor.

It is our further understanding that in order to accomplish the above transactions, it will be desirable to enter into an interim service agreement which would enable the County to provide retail utility service to the proposed Corboy development within our existing franchise service area.

In contemplation of the consideration discussed in Mr. Cantaren's letter to you of August 31, 1998, our, Company supports your "overall master approach". Obviously, the specific terms of any such sale of the aforementioned systems will need to be addressed in a more detailed sales agreement.

If you have any questions, please give me a call,

Sincerely

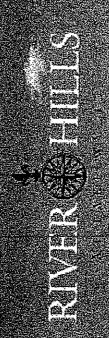
Andrew Dopud Vice President

AD:pas

cc: J. Camaren

# Carolina Water Service Preliminary Acquisition Study

Including



1/21/9

15000

### Analytical Assumptions

- Special Tax District Formed After Approval of Voters of Proposed District
- Acquisition of Carolina Water Service
   System Financed With General Obligation
   Bonds
- Bond Debt Secured by Property Taxes of Special Tax District

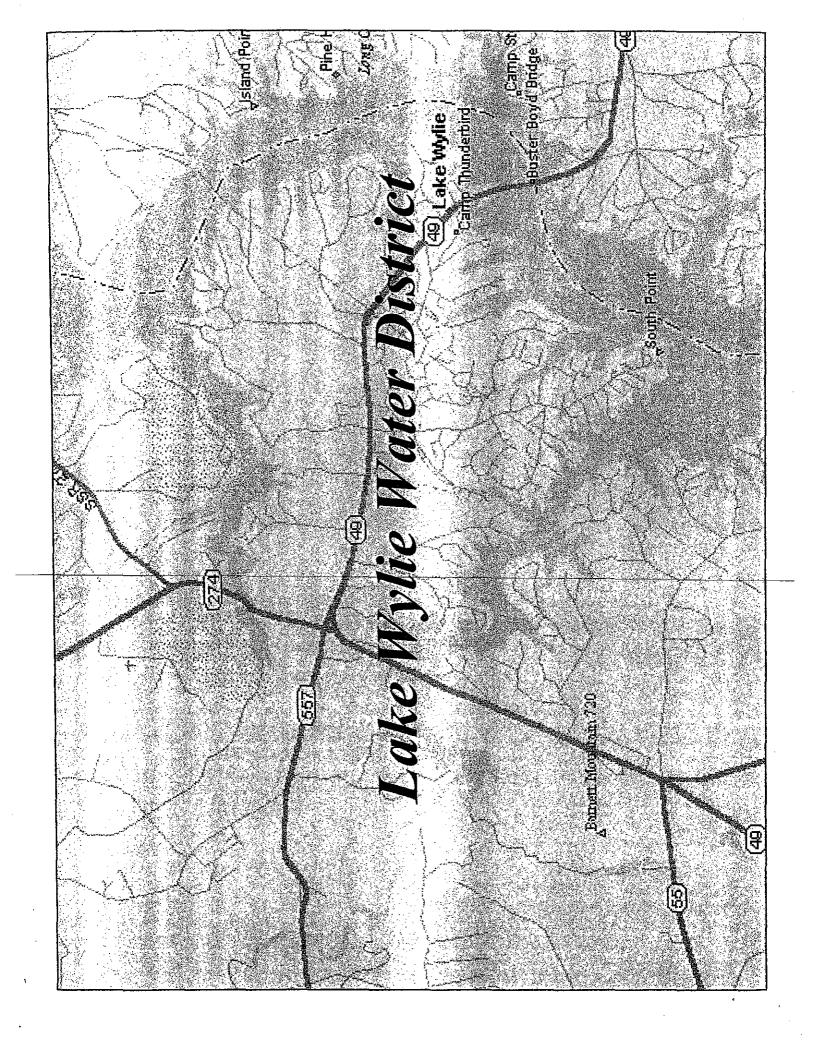
2

### Analytical Assumptions

- Future Net Revenues of District Applied to Reduce Tax Levy
  - Provided County
     Revenue Bonds Coverage Covenants Met Per
     Bond Ordinance
  - Revenue Bonds Allways Have First Lien on System Revenues

# General Obligation Bonds

- Requires Referendum & Pledge of Taxing Power
- Requires Formation of Special Purpose Tax District
- Ninety Day + Process for Referendum
- Lowest Interest Rate
- Low issuance Costs
- Sold Competitively



# Costs of York County Ownership

- Acquisition Related Costs
  - Includes Capital Improvements, Financing,
     Legal, Engineering, & Consulting Costs
- Incremental Annual Revenues & Expenses
  - Includes Additional Revenues, Operational Expenses & Debt Service

# Acquisition Related Costs

- Purchase of CWS System
- Capital Improvements
- Financing Costs
- Other Costs
  - Engineering Appraisal & Valuation
  - Consultants & Atttornety's
- Total Costs

\$4.9 - 6.9 Million

\$300,0006:\$6000,000

\$185,000

\$ 70,000

\$5.5 - 7.8 Million

# Annual Incremental Revenues & Expenses

- Additions to Revenues
- \$369,000
- Using Current CouptyRate Structure
- Additions to 0 & M Expenses
- Additions to Debt Service
- Projected Deficit

(\$146,000)

(\$464,000 - \$575,000)

(\$241,000 - \$352,000)

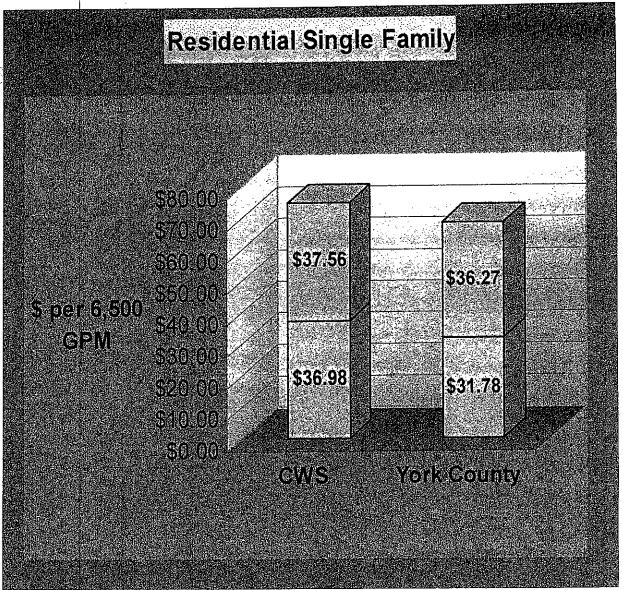
7

# Comparison of Retail Charges



- **CWS** \$74.54
- York County \$68.05
- \$8.7% decrease in Water & Sewer Bill

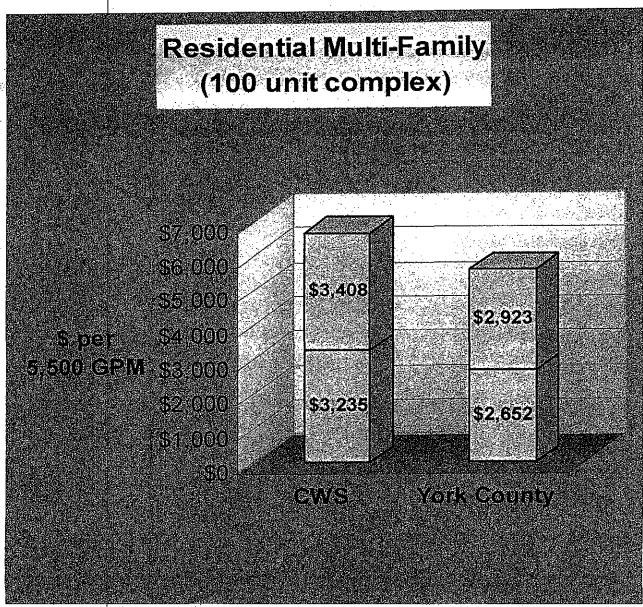
\$ 10 06 Še eo 6111.5 1/21/99



# Comparisqn offRetail Charges



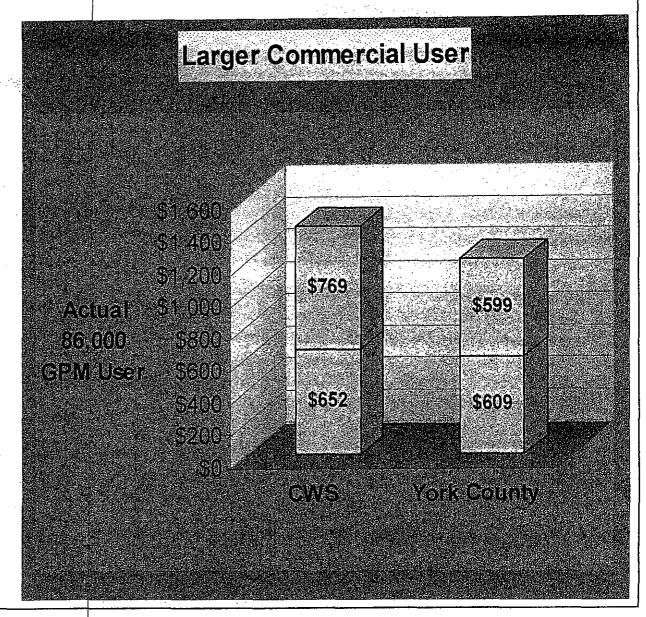
- **CW§** \$6,644
- York County\$5,645
- 15.0%
  decrease in
  Water &
  Sewer Bill



# Comparison of Commercial Charges

#### WINN(63)DIXIE

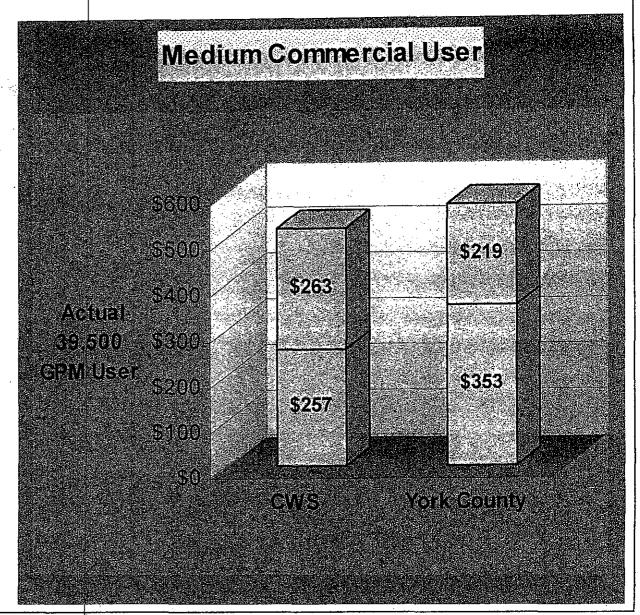
- **CW**§ \$1,421
- York County\$1,207
- 15.0%
  Decrease in
  Water &
  Sewer Bill



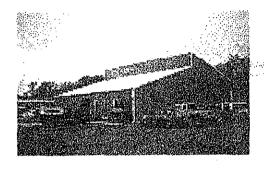
# Comparison of Gammercial Charges



- CWS \$520
- York County\$572
- 10.0%
  Increase in'
  Water &
  Sewer Bill



# Comparison of Commercial Charges



- CWS \$139
- York County \$126.
- 9.5%
  Decrease in
  Water &
  Sewer Bill

Small Commercial User (F)(2(e) \$78 \$65 3/(0(0 Wigner I takaloyokaririlyi U.S. \$61 \$60 (1)2(0) Verdickersting. 

# Comparison of Commercial Charges

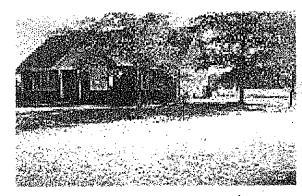


- **CWS** \$28.34
- York County \$68.82
- 1 442.8%
  Increase in
  Water &
  Sewer Bill

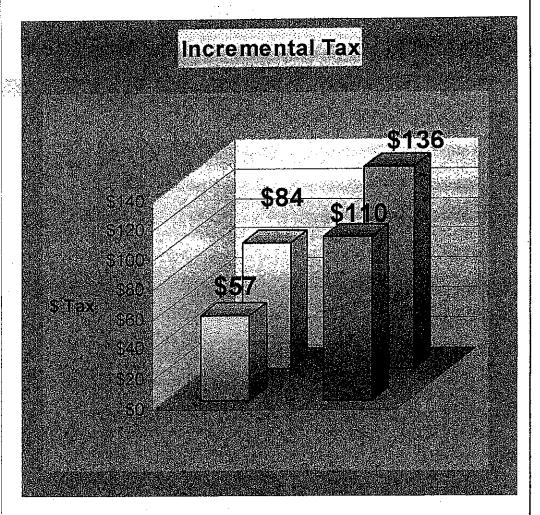
Very Small Commercial User 1.776 \$35 Calor Charles VI A SA 10 (dista) 380 \$18 \$34 \$10 varelmololejets/ 

200

### Comparison of Tax Obligation & Levy



- Market Value \$100,000
- District Tax Obligation
  - **\$110 \$136**
  - (27.6 34.1 mils)
- Probable Tax <u>Levy</u>
  - **\$57 \$84**
  - -(14.3 20.9 mils)



#### Net Apsts to Homeowner



Insignificant Fimancial
. Impact

• Market Value \$100,000

• Projected Additional Tax Levy

\$57 to \$84

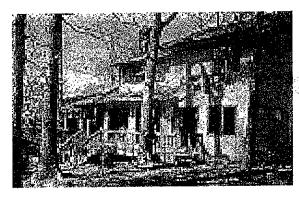
• Projected Change in Water & Sewer Costs

(\$78)

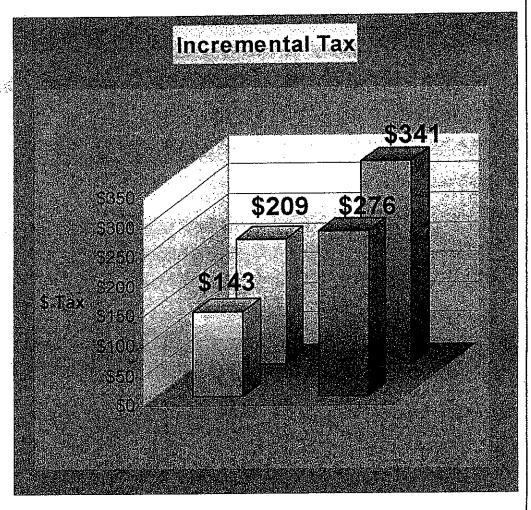
• Net Annual Costs (Gain)

(\$21) to \$6

#### Comparison of Tax Obligation & Levy



- Market Value \$250,000
- District Tax Obligation
  - **\$276 \$341**
  - -(27.6 34.1 mils)
- Probable Tax <u>Levy</u>
  - \$143 \$209
  - -(14.3 20.9 mils)



#### Net Costs to Homeowner



Insignificant Financial Impact<sup>1</sup>

- Market Value \$250,000
- Projected Additional Itax Levy
- Projected Change in Water & Sewer Costs :
- Net Annual Costs (Gain)

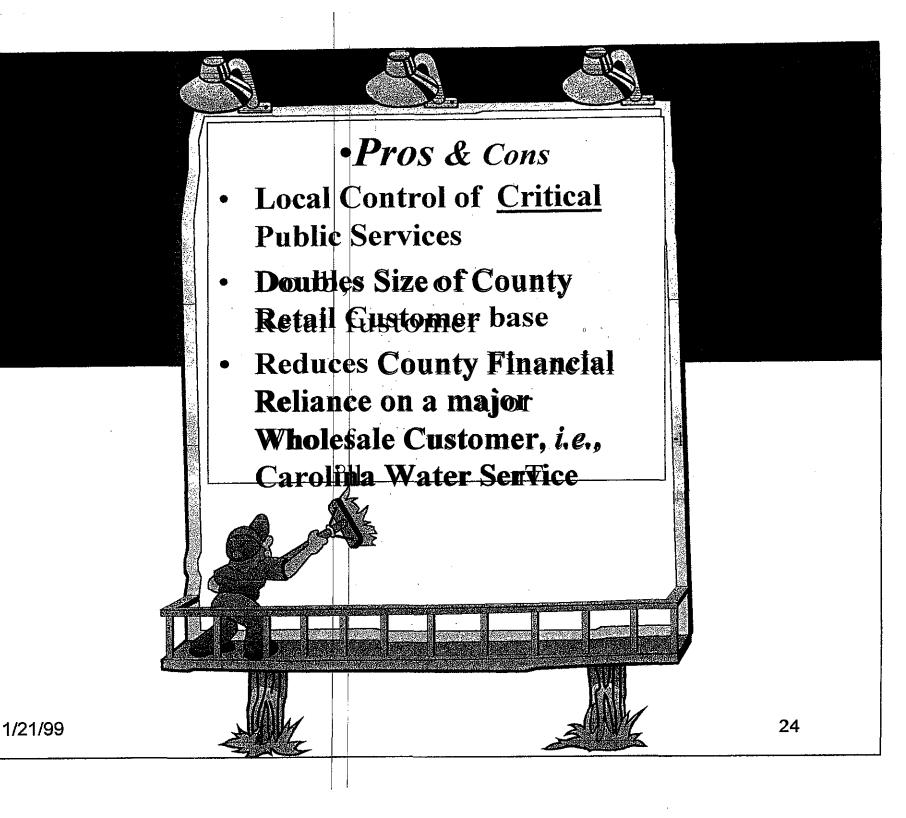
Tax Deductible \$143 to \$209

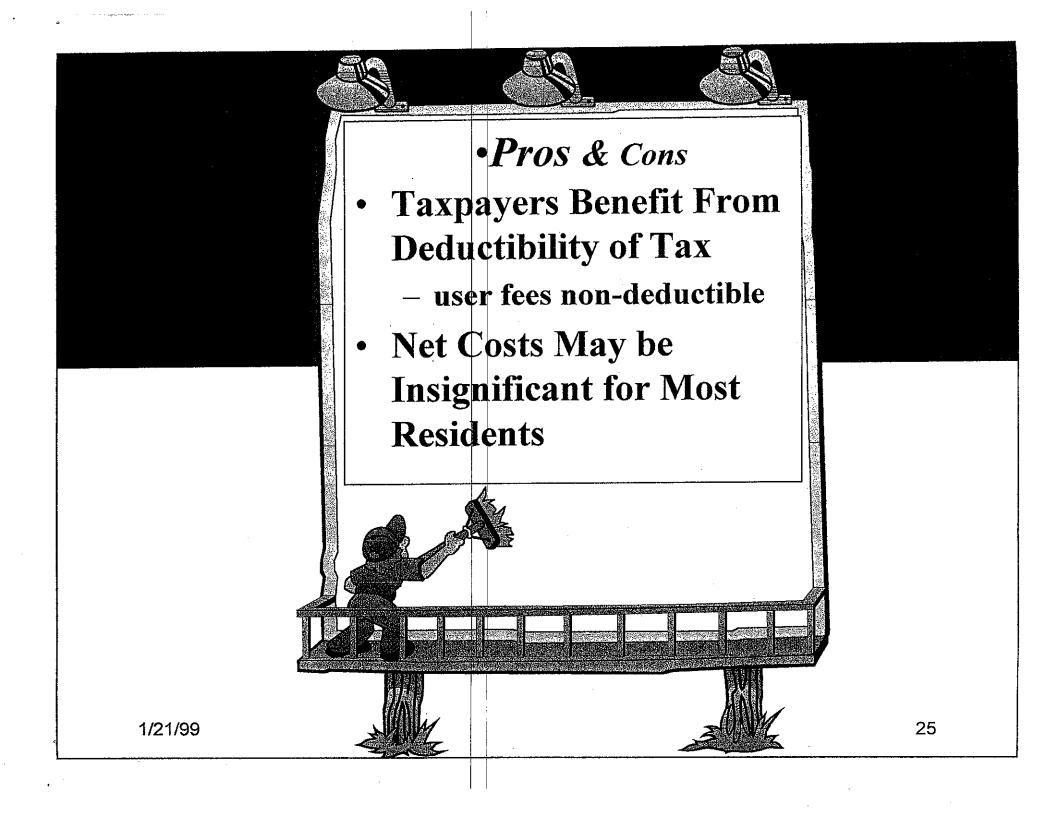
(\$76)

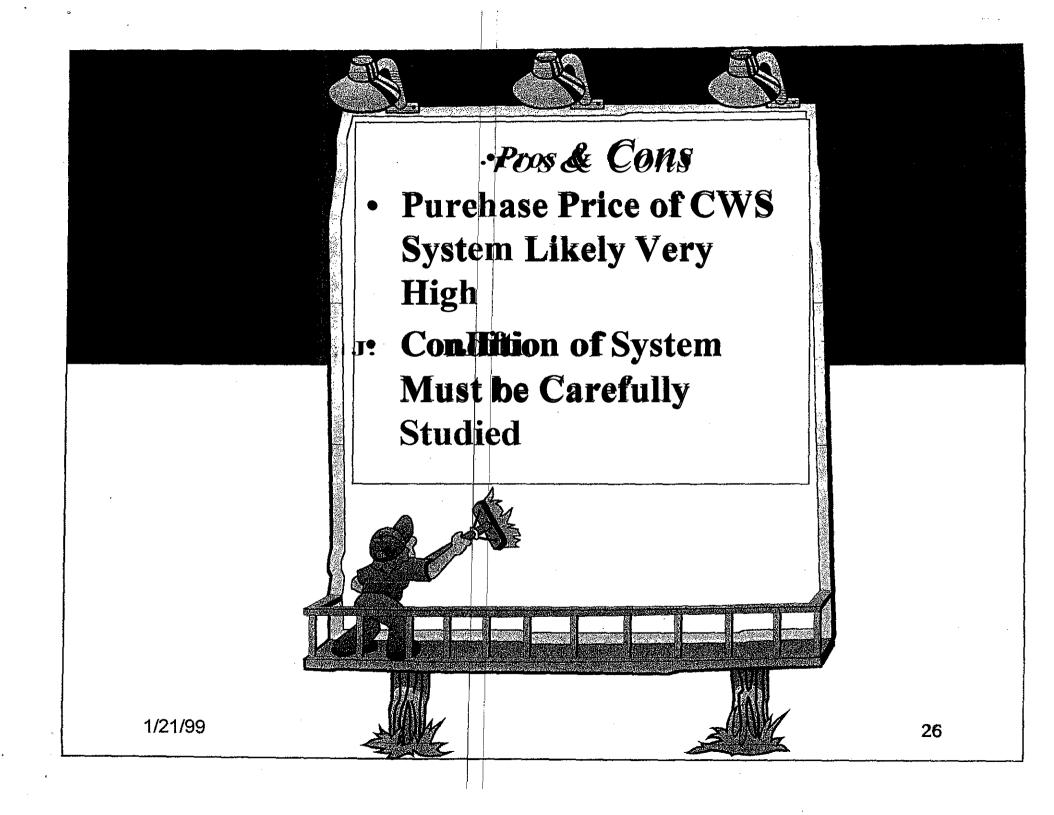
\$67 to \$133

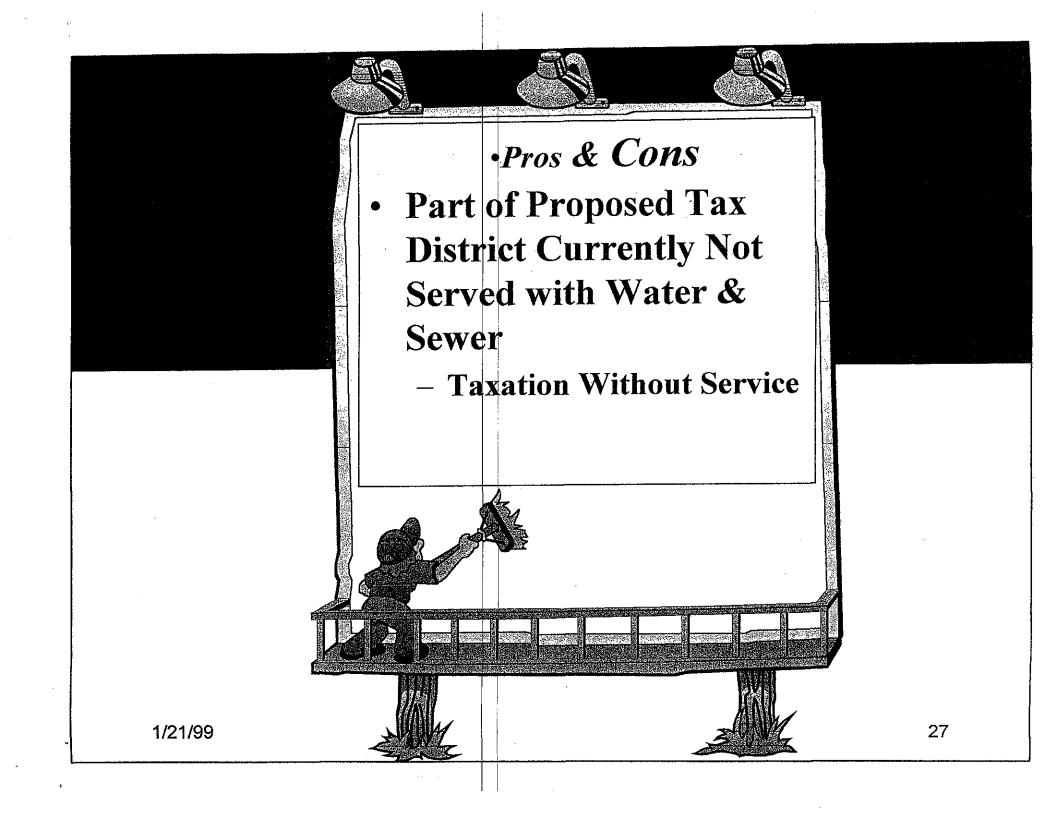
# Carolina Water Service Preliminary Acquisition Study

Questions?









# Carolina Water Service Preliminary Acquisition Study

Thank You

#### HARTMAN & ASSOCIATES, INC. - SOUTHEAST

PRINCIPALS:

James E. Christopher, P.E. Charles W. Drake, E.G. Gerald C. Häftmäti, R.E. Mark I. Luke, P.S.M. Matk A. Rynning, RE. Harold E. Schmidt, Jr. P.E. William D. Musser, P.E.

SENIOR ASSOCIATIES:

C. Zachary Fuller, RE. Thomas F. Qdom, Jr., P.E.

Mateo H. Rocca, C.M.C. J. Richard Voorhees, RE, Douglas P Dufresne, P.G. Richard C. Copeland, M.B.A. Roderick K. Cashe, P.E. Jon D. Fox, RE. James E. Golden, EG.

ASSOCIATES:

June 1, 1998

HAT #98=225:00 And C.W.F. WOODE, OF

Mr. Al Greene **Assistant County Manager** York County P. O. Box 66 York, South Carolina 29745

Subject:

Comparable Sales Report of River Hills Utility

Dear Mr. Greene:

As requested by Mr. Tom Burton, Sr. and the Board of County Commissioners, and reflected in our proposal, Hartman & Associates, Inc. submit our opinion of comparable market value for the River Hills utility system. Attached is an analysis describing our comparable sales approach, and tables listing the details of the comparable utility sales evaluated during our review.

(The comparable sales value for the River Hills System based on market approach is \$ 2,775,138 as of May 1998 under typical terms and conditions outlined in the analysis. As illustrated in our analysis, area municipalities (CMUD) have paid premium for systems during annexation which dictates system expansion. The potential premium purchase price may range as high as <del>\$4.9</del>00.000.

The comparable sales approach should be updated and combined with the replacement cost value and the income approach value to yield our complete appraised value of the system before acquisition proceeds. This letter report and our follow-up presentation of the results will complete our scope of services for this project. HAI is pleased to serve the County on this important matter. Should you have any questions or comments, please advise.

Very truly yours,

Hartman & Associates, Inc. - Southeast

Gerald C. Hartman

President

Attachment

cc: Larry Mitchell, HAI

LWM/eh/INCR/k/e/pnojects/cl

Greene.lwm TWO HANNOVER SQUARE: 434 FAYIFITEVILLE STREET MALL, SUITE 900 • RALEIGH, NC 27601 TELEPHONE (919) 831-9100 • FAX (919) 831-9300 • www.consulthai.com

#### RIVER HILLS UTILITY SYSTEM COMPARABLE SALES APPROACH

#### 1. GENERAL INFORMATION

The system collectively known as the River Hills System consists of water and wastewater facilities to serve a golf and country club community known as River Hills, apartments called Hamilton Bay and Lake Wylie Woods, subdivisions called Hamilton Harbor and Forest Oaks, and several commercial establishments in the immediate vicinity along South Carolina Highway 49. The majority of the system is located south of SC Highway 49, and along the shores of Lake Wylie. Construction of the facilities began in 1973 with a groundwater supply, a 200,000 gallon elevated storage tank, and a small activated sludge wastewater treatment plant with discharge to Lake Wylie.

In 1992, York County adopted an ordinance granting a non-exclusive franchise for operation of the water and wastewater system to Carolina Water Service (CWS). Additionally, following this ordinance, several agreements were executed to establish increased quality water and improved wastewater treatment to this area. York County and CWS have agreed to the following items:

- 1. 25-year term on leases.
- 2. County leases WWTP from CWS.
- 3. County provides forcemain to transport waste from collection system. CWS leases non-exclusive use of forcemain.
- 4. County leases EST from CWS.
- 5. County provides water main to supply CWS water.
- 6. County charges CWS for wholesale water and wastewater service.
- 7. County purchases water for CWS from City of York, with City of Rock Hill as back-up.
- 8. County purchases sewer treatment for CWS from City of Rock Hill.

During the period prior to August 1996, the WWTP was converted to a flow equalization basin providing aeration and transfer to further treatment off-site. The County owns and operates the main wastewater pumping station responsible for the transfer, which was built by the County on land leased from CWS.

The majority of the 1100 water and wastewater customers are permanent residential, single-family homes. However, villas and apartments are served by the River Hills system, as well as

commercial centers containing grocery stores, fast food restaurants, a carwash and convenience stores.

#### 2. INTRODUCTION TO APPROACH

The comparable sales approach to utility valuation is usually considered with other valuation methods (i.e. cost approach and income approach). Knowledgeable buyers and sellers of water and wastewater utilities in the Southeast United States generally know the "Market" for utility systems. The purpose of this market approach is to examine the history of water and wastewater utility acquisitions, and to analyze the conditions under which the systems were transferred, in an effort to arrive at an implied purchase price for the River Hills area water and wastewater system to assist York County with informed decisions for a potential acquisition.

The selected transactions of water and wastewater utility systems were compared using quantitative values of single family equivalents (SFE's). Extensive research was conducted in order to gather as much information regarding similar acquisitions in the Southeast as possible. The potential list of comparable sales was narrowed down to those which were considered the most comparable and an in-depth analysis conducted on each transaction. In order to properly compare the different transactions, various financial, technical, legal, and customer service—inforinformations—wastanalyzad had adjusted MMcoscover idiscussions with the megotiators, buyers, and sellers were useful and informative to our analyses. Our activities are ongoing concerning this approach, and we strive to constantly update our utility system acquisition and sales data base. An additional comparison was conducted to evaluate recent transactions that the current owner of River Hills (CWS) has executed in the Charlotte/Mecklenburg area.

#### 3. FACTORS INFLUENCING UTILITY ACQUISITIONS

There are many factors which are involved in the determination of an acquisition price of a utility system. These factors create both similarities and differences between the transactions, which in essence, result in the formation of a mixed market of utility sales. The following is a brief discussion of several important factors that impact the acquisition of water and wastewater utilities and therefore influence the market value:

3.1 System Assets. Water and wastewater utilities vary considerably in their sizes, treatment capacities, physical condition which is sometimes an indicator of age or level of maintenance provided, as well as the number and type of customers.

All of the above are components that form the utility's assets to be sold or purchased. It is common that knowledgeable buyers of water and wastewater systems look closely into these components prior to agreeing upon a purchase price. The following areas regarding the system's assets are often evaluated:

- a. Type of services provided, water only, wastewater only or both.
- b. Extent and physical characteristics of the water transmission/distribution system including the fire hydrants, valves, meters, and services.
- c. Extent and physical characteristics of the wastewater collection! transmission system including manholes, force mains, and lift stations.
- d. In-service water and/or wastewater treatment capacities, and the design and permitted capacities of these facilities (not applicable for River Hills).
- e. Actual customers connected to the utility systems and their characteristics.
- f. Physical overall condition of the facilities and the cost of any major capital impre imprevements required...
  - g. Potential growth in the utility's customers, and the economic feasibility to provide services to those future customers.
  - h. Source of water supply and treatment necessary, if the utility produces and treats its own water.
  - i. Capacity, cost and terms of agreement if the utility purchases bulk water or wastewater for resale.
  - j. Type of water and/or wastewater treatment processes (not applicable for River Hills).
  - k. Quality of water and/or wastewater facilities, construction components, special features and overall design.

3.2 System Management and Finances. Several elements under this factor can have a considerable impact on the price of a utility system. Inappropriate management decisions or methodologies may result in highly inflated rates and charges for the customers served by a utility system. The value of that utility in the market would differ from another utility that applies proper management methodologies.

The corporate structure of a utility company, whether a simple stand-alone utility or a subsidiary of a larger corporation, sometimes creates a substantial variation in the revenues generated. Assuming all other factors are constant, these variations in corporate structures and the revenues that could be generated are expected to impose a direct impact on the prices paid for utility systems.

Another important element that can affect the pricing of a utility is its before and after tax cash flows and how the utility has been financed. The available cash flow which a non-regulated or not-for-profit purchaser or a regulated for profit purchaser can ascertain is usable for debt service purposes which typically can be determined and can become an important factor. Likewise, the methods by which the physical assets have been financed or paid for by equity dollars must be given consideration.

3.3 <u>Competitive Market or Monopoly</u>. Another aspect of the market influence on the sale or purchase of a utility system is the financing cost. Higher costs of borrowing funds may slow the market or result in an inflated price of the system. Similarly, lower interest rates may encourage the buyers to borrow, which ultimately impacts the price.

A major factor influencing an acquisition and the pricing of a utility can be the exclusivity of its service territories. If a utility has been granted either franchise rights or territorial certificates which protect its service territories and make the utility a sole provider of water and wastewater services within these territories, its value is substantially enhanced. However, if other private or public utilities can provide similar services in these same territories, the opposite effect can occur.

Other elements typically considered when purchasing a utility system include location, local and state regulations and future population growth.

- 3.4 <u>Method of Acquisition</u>. The majority of the water and wastewater utility transactions occur through negotiations between interested buyers and motivated sellers. However, ownership of a utility system by a governmental entity can occur through a condemnation process.
- 3.5 <u>Context of Transaction</u>. It is important to consider all terms and conditions of the purchase and sale agreements of utility transactions. The issues typically addressed under a purchase and sale agreement of a utility system are summarized as follows:
  - a. Cash amount paid on closing date, as well as future payments for additional customers connected to the systems in the future years, if applicable.
  - b. Method of payment and its timing.

c.--**SeHershould**dprovide de mantenteil Hoftsalb foleafbofathe filhysigdlyaiseis askets-at------- the water alid wastewater syndmys:--

- d. All physical assets and real properties are transferred without liens, encumbrances or title defects.
- e. All easements and real property owned by the seller or third party were transferred, assigned or deeded in fee simple as may be appropriate.
- f. Who retains the escrowed interim rate fees, in the case where the seller had filed for rate increase and interim rates have been in effect.
- g. Whether prepaid and/or discounted future customer connections are included in the purchase price and assigned to the seller at closing.
- h. Seller complied with federal, state, and local regulations through closing.

- i. Allowance for latent defects included in the price.
- j. All records, drawings, and permits were transferred properly.
- k. Whether accounts receivable outstanding at the time of closing are later reimbursed to the seller, subject to the age of the receivable.
- 1. All vendor invoices for services, materials, and supplies are paid by seller, prior to closing.
- m. All taxes and franchise fees are paid by seller through closing date.
- n. Vendor contracts assigned by seller to buyer with no current liabilities.
- o. All closing documents provided by seller and his legal counsel are in order.
- p. Seller maintained adequate insurance coverages and indemnified buyer from loss from date of purchase and sale agreement through closing.
- q.--- Washing pirchase of the physical assets on an "as-is" wasis, within future
  - r. All rolling stock and equipment were purchased and not removed by seller.
  - s. Operations and management of facilities were properly performed by seller through closing date.
  - t. Buyer was indemnified by seller from any pending or threatened litigation associated with its actions prior to closing, representation at closing and actions of selling the facilities.
  - u. Seller was responsible for petitioning the governmental regulating entities to transfer the utility permits, approvals, licenses and the like to buyer.

- v. The liabilities for consultants fees and charges, did the seller and buyer each pay their own, or did the buyer pay all such costs.
- w. Title commitment and insurance costs, documentary stamps, and recording costs were paid by seller, or shared by seller and buyer.

#### 4. SELECTED COMPARABLE SALES

As indicated earlier, there are several factors that must be considered in the selection and evaluation of the most comparable set of water and wastewater system transactions to the acquisition of the River Hills facilities. This subsection presents the criteria utilized in the comparable sales selection process.

### 4.1 <u>Criteria</u>

In order to select the set of water and wastewater sales most comparable to the River Hills water and wastewater system, HAI has researched over 600 utility transactions occurring throughout the Southeast. The selection process was based upon the following criteria:

- a. Minimum total water and wastewater SFE's served at the time of closing was -
- b. Sales occurring between 1990 and 1997, including sales of systems where the purchase price, terms and conditions were specified within the above period.
- c. Minimum purchase price of \$350,000.
- d. Full public disclosure of all terms and conditions, full public accounting of the assets, and a purchase price paid as cash or future payments of cash.
- e. Transactions occurring in South or North Carolina.

The selection process utilizing the above criteria resulted in a total of fourteen (14) comparable water and wastewater system transactions. In addition to the fourteen (14) selected sales, we also reviewed certain transactions that occurred in North Carolina involving several smaller systems of Carolina Water Service (CWS) sold to Charlotte – Mecklenburg Utility Department

(CMUD). These sales did not meet all of the selection criteria, but were reviewed as part of our market survey to gauge the recent historical transactions conducted by CWS. The costs per comparable unit were higher than our analysis to date, and can be viewed as an indicator of potential purchase price with the current owner similar to the results of our analysis to date.

#### 5. ADJUSTMENTS TO PURCHASE PRICES

As was indicated earlier in the discussion of the fourteen (14) sales transactions, purchase prices paid at time of closing are listed separately. For those sales that include future payments in addition to the initial price, the present value of these payments at the time of sale was calculated and added to the purchase price list in the following tables. Table 1 summarizes the fourteen (14) selected transactions and their applicable data.

As is usually the case, the negotiated prices for water and wastewater utilities often reflect the market conditions at the time of acquisition. Therefore, purchase prices including the present value of future payments for the utility transactions utilized in this analysis were adjusted to reflect the changes in the market within the period from 1990 to 1997. One of the most reliable factors that recognizes market changes is the ratio of market to book value of water utility companies as listed in the C.A. Turner Utility Report.

All purchase prices were converted to the present time and tabulated for illustration. The adjustment factors were calculated by using the 1997 ratio (1.57) as a base for unity, as illustrated in Table 2.

#### 6. CALCULATION OF IMPLIED PURCHASE PRICE

This subsection presents the steps of calculations of implied purchase price for the River Hills water and wastewater systems. There are several indicators and adjustments of purchase prices that could be utilized to arrive at an implied purchase price. The one most widely utilized in the marketplace will be employed in this report, which is the implied price per water SFE and wastewater SFE. In our opinion, the price paid for existing customer base expressed in SFE's is the most significant.

# TABLE 1 RIVERIBULSUIIILITYSYSTEM ORIPARABLE SALES ANALYSIS Selected Water and Wastewater Transactions

				System		Purchase		Number of SFI	?'s
No.	Name of Utility	Name of Purchaser	State	Туре	Year	Price	Water	Wastewater	Total
1	Carolina Trace Corporation	Utilities, Inc. (Carolina Water Service)	NC	W/S	1991	\$1,050,000	944	819	1,763
2	Regional Investments of Moore, Inc.	Pinehurst Water & Sanjtary Company	NC	W/S	1993	\$5,850,000	5,750	3,943	9,693
3	Blankley Health LLP (Landen)	Charlotte-Mecklinburg Utilities Department	NC	s	1996	\$1,250,000	0	832	832
4	Transylvania Utility Company	Utilities, Inc. (Carolina Water Service)	NC	W/S	1991	\$625,000	750	500	1,250
5	Coastal Carolina Utilities, Inc.	New Hanover County	NC.	W/S	1994	\$405,000	471	256	727
6	Cape Fear Utilities, Inc.	New Hanover County	NO.	S	1992	\$753,872	0	1116	1,116
7	Carolina Water Service; Inc.	Town of River Bend	NC	W/S	1996	\$3,036,100	941	790	1,731
8	Wild Dunes Utilities, Inc.;	Isle of Palms Water & Sewer Continuission.	SO'	W/S	1993	\$6,2550,0000°	1,865	c, <b>1,744</b>	3,609
9	Hilton Head Plantation Utilities, Inc.	Hilton Head No. 1 Public Service District	SC	W/S	1994	\$8,200,000 "	4,745	3,172 .	7,917
10	Long Cove Clith, Utilities, Inc.	Sea Pines Public Service District	sq'	W/S	1994	\$1,004,000	538	290	828
11	Plantation Utilities Inc. (Wexford)	Sea Pines Public Service District	SC	W/S	1995	\$940,000	626	373	999
12	North Colinty Service Company	York County	sc	W/S	1994	\$1,100,000	170	160	330
13	Heater of Seabrook, Inc.	Town of Seabrook	SC	W/S	1996	\$5,920,000	1713	1596	3,309
14	Utilities, Inc. (Bagnal Builders)	City of Columbia	sc	S	1997	\$350,000	0	170	170

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# TABLE 2 RIVER FILLS UTILITY SYSTEM COMBARATHIE SALES ANALYSIS Adjuted Purchase Prices (1)

		}		System		Purchase	Firme Adı.	AND VALUE
No.	Same of Utility	Name of Pur	rchager	Туре	Year	Price	Factor (2)	Parchase Price
1	Carolina Trace Corporation	Utilities, Inc. (Carolina Water	r Service)	W/S	1991	\$1,050,000	1.198	\$1,258,397
2	Regional Investments of Moore, Inc.	Pinehorst Water & Sanitary C	Company	W/S	1993	<b>\$5,</b> 850,000	1.026	\$6,002,941
3	BlankleyHealithLLP (Landen)	Charlotte-Mecklinburg Utilitie	es Department	s	1996	\$1,250,000	1.121	\$1,401,786
4	Transylvania Utility Company	Utilities, Inc. (Carolina Water	Service)	W/S	1991	\$625,000	1.198	\$749,046
5	Coastal Carolina Utilities, Inc.	New Hanover County		W/S	1994	\$405,000	1.129	\$457,446
6	Cape Fear Utilities, Inc.	New Hanover County		s	1992	\$753,872	1.129	\$851,496
7	Carolina Water Service, Inc.	Town of River Bend		W/S	1996	\$3,036,100	1.121	\$3,404,769
8	Wild Dunes Utilities, Inc.	Isle of Palms Water & Sewer (	Commission	W/S	1993	\$6,250,000	1.026	\$6,413,399
9	Hilton Head Plantation Utilities, Inc.	Hilton Head No. 1 Public Serv	vice District	W/S	1994	\$8,200,000	1.129	\$9,261,871
10	Long Cove Club Utilities, Ind u c . j S e	Sea Pines Public Service Fistr	rict	W/S	1994	\$1,004,000	1.129	\$1,134,014
11	Plantation Utilities Inc. (Wexford)	Sea Pines Public Service Dista	nict	W/S	1995	\$940,000	1.227	\$1,152,969
12	North County Service Company	York County		1 w/s	1994	\$1,100,000	1.129	\$1,242,446
13	Heater of Seabrook, Inc.	Town of Seabrook		\ W/S	1996	\$5,920,000	1.121	\$6,638,857
14	Utilities, Inc. (Bagnal Builders)	City of Columbia		S	1997	\$350,000	1.000	\$350,000

#### Notes:

(1) The purchase prices were adjusted based on ratio of market to book value of water utility companies as listed in the C. A. Tumer Utility Report as follows:

(2) The adjustment factors were calculated based on the following ratios:

Market/Book	Adjustment
Ratio	Factor
1.28	1.227
1.51	1.198
1.89	1.129
, 1.63	1.026
1 <b>/</b> sp	1.129
1.28	1.227
140	1.121
71.57	1.000
	Ratio 1.28 1.51 1.39 1.63 1.39 1.28

# 6.1 Allocation of Adjusted Purchase Prices

In this analysis, both water and wastewater systems have been reviewed separately. The net utility plant in service for each system was found to be the proper method by which purchase prices of utility transactions could be allocated, and adjusted purchase prices determined. Table 3 presents the allocation of the adjusted purchase prices to the water and wastewater systems of the fourteen (14) selected transactions.

# 6.2 Analysis of Adjusted Purchase Prices Based on Number of Customers

The number of customers, as represented by their respective water meter sizes, and number of sewer taps was determined for the fourteen (14) selected transactions and converted to single family equivalents (SFE's). The allocated adjusted purchase prices were divided by each system's water and wastewater SFE's, in order to arrive at a price per SFE. The above analysis resulted in an average price per water SFE of approximately \$1,129 and an average price per wastewater SFE of approximately \$1,818 as shown in Table 4. An adjustment for lack of water supply of 10% was calculated and an adjustment for adequate sewage treatment of 20% was calculated and utilized in determining the market price per SFE of the River Hills system. The corrected price is \$1,016 for water and \$1,454 for sewer.

The River IIIs system lias approximately 1,133 water SFE's siia-LJII/wastevetter-SFE's reported as of May 1998. The implied purchase price based on this analysis for the water system is \$1,150,886 and for the wastewater system is \$1,624,252.

The total implied purchase price for River Hills water and wastewater systems based on our comparable sales and the number of respective connections is calculated to be \$ 2,775, 138,

# 6.3 Analysis of Recent Carolina Water Service Transactions

To augment our analysis, we researched recent utility transactions involving Carolina Water Service to gain a larger grouping of sales that may not be physically comparable, but are of comparable situations. For example, all sales were typically non-solicited, and were followed by annexation or acquisition due to the concerns of the customers. All sales to CMUD, exclude supply and treatment facilities, therefore, similar to the River Hills system, where customers and water main distribution are a significant portion of the value of the systems. Table 5 lists an additional fourteen (14) systems that have been sold by CWS within the last four years. Several

#### TABLE 3

#### HIVER HILLS UTILITY SYSTEM COMPARABLE SALES ANALYSIS

### Allowated Burchase Price Based on Net Plant In Service

<b>*</b>	<del>odađe</del>					namentos Santos		***************************************	45		esercia di	
5 🛭	₩				Total Adjusted	Net	Utility Plant In .	Yeryista	%	Of Total	Allocated P	urchase Price
°	ie.	Name of Utility	Name of Furchaser	Year	Purchase Price	Total	Water	Wastewater	Water	Wastewater	Water	Wastewater
		Carolina Trace Corporation	Utilities, Inc. (Carolina Water Service)	1991	\$1,258,397	\$4,654,450	\$1,389,742	\$3,264,708	29.9%	70.1%	\$375,737	\$882,660
	2	Regional Investments of Moore, Inc.	Pinehurst Water & Sanitary Company	1993	\$6,002,941	\$3,437,164	\$2,003,407	\$1,433,757	58.3%	41.7%	\$3,498,912	\$2,504,029
	3	Blankley Health LLP (Landen)	Charlottte Medklinburg Utilities Department	1996	\$1,401,786	(1)	(1)	(1)	N/A	100.0%	NIA	\$1,401,786
	4	Transylvania Utility Company	Utilities, Inc. (Carolina Water Service)	1991	\$749,046	\$653,097	\$211,306	\$441,791	32.4%	67.6%	\$242,,350	\$506,696
	5	Coastal Carolina Utilities, Inc.	New Hanover County	1994	\$457,446	\$1,893,622	\$513,482	\$1,380,140	27.1%	72.9%	\$124,043	\$333,403
	6	Cape Fear Utilities, Inc.	New Hanover County	1992	\$851,496	(2)	(2)	(2)	NIA	100.0%	NIA	\$851,496
$\Gamma$	7	Carolina Water Service Inc. (3)	Town of River Bend	1996	\$3,404,769	\$47,099,702	\$28,118,574	\$18,981,128	59.7%	40.3%	\$2,032,651	\$1,372,118
	8	Wild Dunes Utilities, Inc.	Isle of Palms Water & Sewer Commission	1993	\$6,413,3 <b>9</b> 9	\$6,833,140	\$2,673,348	\$4,159,792	39.1%	60.9%	\$2,509,131	\$3,904,267
	9	Hilton Head Plantation Utilities, Inc.	Hilton Head No. 1 Public Service District	1994	\$9,261,871	\$3,450,541	\$875,316	\$2,575,225	25.4%	74.6%	\$2,349,505	\$6,912,365
\$ [	10	Long Cove Club Utilities, Inc.	Sea Pines Public Service District	1994	\$1,134,014	\$362,490	\$113,108	\$249,382	31:2%	68.8%	\$353,847	\$780,167
	[1]	Plantation Il tilities Inc. (Wexford)	Sea Pines Public Service District	1995	\$1,152,969	\$925,168	\$310,620	\$614,548	33.6%	66.4%	\$387,103	\$765,866
	12	North County Service Company	York County	1994	\$1,242,446	\$678,290	(4)	(4)	51.5%	48.5%	\$639,860	\$602,586
	13	Hehter of Seabrook, Inc.	Town of Seabrook	1996	\$6,638,857	\$6,028,956	\$2,771,428	\$3,257,528	46.0%	54.0%	\$3,051,791	\$3,587,066
	14	Utilities, Inc. (Bagnal Builders)	City of Columbia	1997	\$350,000	(5)	(5)	(5)	NIA	100.0%	NIA	\$350,000

#### Notes:

- 1. System not a franchised utility, therefore no annual report submitted. Plant in service entirely sewer.
- 2. Transaction for sewer systems only so allocated purchase price based solely upon sewer.
- 3. Represents entire CWS utility plant in service throughout North Carolina.
- 4. Annual Report incomplete in subdividing plant in service, percentage allocated based upon customers.
- 5. Utility fully depreciated net utility plant in kervice zero.

# TABLE 4 RIVER HILLS UTILITY SYSTEM COMPARABILE SALES ANALYSIS

Implied Pundhase Price Based On Number Off Customers

				Ŧ,A	ater System		Wasten	xater Syster	7
No.	Name of Unlify	Name of Purchases	Year	Alloc P.P.	SITE	S/SFE	Alloc P.P	SPES	S/SFE
1	Carolina Trace Corporation	Utilities, Inc. (Carolina Water Service)	1991	\$3 <b>7</b> 5,737	944	\$398	\$882,660	819	\$1,078
2	Regional Investments of Moore, Inc.	Pinehurst Water & Sanitary Company	1993	\$3,498,912	5,750	\$609	\$2,504,029	3,943	S635
3	Biankley Health LLP (Landen)	Charlotte-Mecklinburg Utilities Department	1996	N/A	0		\$1,401,786	832	\$17,685
4	Transylvabia Utility Company	Utilities, Inc. (Carolina Water Service)	1991	\$242,350	750	\$323	\$506,696	500	\$1,013
5	Coastal Carolina Utilities, Inc.	New Hanover County	1994	\$124,043	471	\$263	\$333,403	256	\$1,302
6	Cape Fear Utilities, Inc.	New Hanover County	1992	NA	0		\$851,496	1,116	\$763
7	Carolina Water Service, Inc.	Town of River Bend	1996	\$2,032,651	941	\$2,160	\$1,372,118	790	\$1,737
8.	Wild Dunes Utilities, Inc.	Isle of Palms Water & Sewer Commission	1993	\$2,509,131	1,865	\$1,345	\$3,904,267	1,744	\$2,239
9	Hilton Head Plantation Utilities, Inc.	Hilton Head No. 1 Public Service District	1994	\$2,349,505	4,745	\$495	\$6,912,365	3,172	\$2,179
10	Long Cove Club Utilities, Inc.	Sea Pines Public Service District	1994	\$353,847	538	\$658	\$780,167	290	\$2,690
ni	Plantation Utilities Inc. (Wexford)	Sea Pines Public Service District	1995	\$387,103	626	\$618	\$765,866	373	\$2,053
12	North County Service Company	Yark County	1994	\$639,860	170	\$3,764	\$602,586	160	\$3,766
13	Heater of Seabrook, Inc.	Town of Seabrook	1996	\$3,051,791	1,713	\$1,782	\$3,587,066	1,596	\$2,248
14	Utilities, Inc. (Bagnal Builders)	City of Columbia	1997	NAA	0		\$350,000	170	\$2,059

Average Price Per Water And Wastewater Customer:

\$1,129 \$1,016

\$1,818 \$1,454

River Hills Utility System Correction for lack of water supply (10%) and sewage treatment (20%) Number of Total SFE's:

1,133

1,117

**Implied Purchase Prices of the Water and Wastwater Systems:** 

\$1,150,886

\$1,624,252

Total Implied Purchase Price:

\$2,775,138

# TABLES RIVER HILLS UTILITY SYSTEM RECENT CAROLINA WATER SERVICE, INC.

Water and Wastewater Transactions

4	4.4 Sys		Purchase	No. i	Total			
100	Name of Utility (Seller)	Name of Purchaser	Туре	Year	Price	water	wastewater	ERC's
1	Canodina Water Service, Inc.	CMUD - (Idlewood Subdivision)	W	1995	\$174,000	92	0	92
2	Carolina Water Service, Inc.	CMUD - (Providence West)	W	1995	\$184,000	99	0	99
3	Carolina Water Service, Inc.	CMUD - (Southwoods)	W	1995	\$330,000	153	0	153
4	Carolina Water Service, Inc.	CMUD - (Hampton Green)	W	1995	\$405,000	227	0	227
5	Carolina Water Service, Inc.	CMUD - (Forest Hills)	W	1995	\$445,000	197	0	197
6	Carolina Water Service, Inc.	CMUD - (Saddlebrook)	W	1995	\$106,000	56	0	56
7	Carolina Water Service, Inc.	CMUD-((Suburban Woods)	W	1996	\$70,000	94	0	94
8	Carolina Water Service, Inc.	CMUD - (Mallard Crossing)	W	1994	\$190,000	88	0	88
9	Carolina Water Service, Inc.	CMUD - ((Habersham)	W	1995	\$266,000	133	0	133
10	Carolina Water Service, Inc.	CMUD - (Hidden Hills & Flammwood)	W	1995	\$173,000	90	0	90
11	Carolina Water Service, Inc.	CMUD - (Tarawoods)	W	1997	\$155,900	71	0	71
12	Carolina Water Service, Inc.	CMUD - (Brandonwood)	W	1997	\$85,300	95	0	95
13	Carolina Water Service, Inc.	CMUD - (Farmwood A / Affiplecreek)	W	1997	\$710,000	309	0	309
14	Carolina Water Service, Inc.	CMUD - (Farmwood 15, 20, 21)	Wis	1997	\$785,500	203	95	298

Of these systems are water only, small subdivisions which were to be annexed by the City of Charlotte. Moreover, CWS does not report the net utility plant in service for the individual systems during annual utility commission reporting, therefore, to separate water and wastewater financial allocation for these transactions is not applicable.

Similar to the physical comparables, the purchase prices were adjusted to reflect the Market to Book value. The adjusted purchase price is listed in Table 6. The adjusted purchase price was then utilized to reflect the amount of purchase per single family equivalent.

Based on our analysis of recent transactions conducted by CWS with CMUD, the average purchase price per water and wastewater customer is \$2,188, and for a combined River Hills water and wastewater system, the potential premium purchase price based upon recent CWS to CMUD sales is \$4,923,913. Table 7 illustrates this analysis.

#### 7. SUMMARY AND CONCLUSION

The comparable sales approach provides a marketplace value for utility acquisitions. Various adjustments were made to certain elements of the selected transactions, in order to reduce the differences between River Hills and the other systems. The results of the comparable sales ——aramalysis reflect an adjusted price per SFE for the water and wastewater systems. This analysis utilized the most widely employed indicator of value (the SFE) to arrive at an implied purchase price. The comparable sales value for River Hills water and wastewater systems based on the market approach is \$2,775,138 as of May 1998 under the typical terms and conditions discussed in this analysis. To the extent such terms and conditions are modified, then a corresponding adjustment may be required.

# TABLE 6 RIVER HILLS UTILITY SYSTEM RECENT CAROLINA WATER SERVICE, INC. TRANSACTIONS

Adjusted Purchase Prices (1)

MZ	1 4 4		111	1545401	1 1	l Purphrise	Time Adj.	Adjusted
	1 Name of Utility (Seller)	Starne of the Golden		1 lyn	Yea	1144	Factor (2)	Purchase Price
1	Carolina Water Service, Inc.	(Idlewood Subdivision)		W	1995	\$174,000	1.227	\$213,422
2	Carolina Water Service, Inc.	CMUD - (Providence West)		W	1995	\$184,000	1.227	\$225,688
3	Carolina Water Service, Inc.	CMUD - (Southwoods)		W	1995	\$330,000	1.227	\$404,766
4	Carolina Water Service, Inc.	CMUD - (Hampton Green)		w	1995	\$405,000	1.227	\$496,758
5	Carolina Water Service, Inc.	CMUD - (Forest Hills)		W	1995	\$445,000	1.227	\$545,820
6	Carolina Water Service, Inc.	CMUD - (Saddlebrook)		W	1995	\$106,000	1.227	\$130,016
7	Carolina Water Service, Inc.	CMUD - (Suburban Woods)		W	1996	\$70,000	1.121	\$78,500
8	Carolina Water Service, Inc.	CMUD - (Mallard Crossing)		W	1994	\$190,000	1.129	\$214,604
9	Carolina Water Service, Inc.	CMUD - (Habersbam)		W	1995	\$266,000	1.227	\$326,266
10	Carolina Water Service, Inc.	CMUD - (Hidden Hills & Farm)	vood)	w	1995	\$173,000	1.227	\$212,195
11	Carolina Water Service, Inc.	CMUD - (Tarawoods)		W	1997	\$155,900	1.000	\$155;900
12	Carolina Water Service, Inc.	CMUD - (Brandonwood)		W	1997	\$85,300	1.000	\$85,300
13	Carolina Water Service, Inc.	CMUD - (Farmwood A / Applepr	eek)	W	1997	\$710,000	1.000	\$710,000
14	Carolina Water Service, Inc.	CMUD - (Farmwood 15,20,221)		W8'S/	1997	\$785,500	1.000	\$785,500

#### Notes:

- (1) The purchase prices were adjusted based on ratio of market to book value of water utility companies as listed in the C. A. Turner Utility Report as follows:
- (2) The adjustment factors were calculated based on the following ratiost

	Market/Book	Adjustment
Year	Ratio	Factor
1990	1.28	1.227
1991	1.31	1.198
1992	1.39	1.129
1993	1.53	1.026
1994	1.39	1.129
1995	1.28	1.227
1996	1.40	1.121
1997	1.57	1.000

# TABLE 7 RIVER HILLS UTILITY SYSTEM RECENT CAROLINA WATER SERVICE, INC. TRANSACTIONS

Implied PurcRase Price per Number of Customers

			System		Adjusted	Water and Wi	istewater System
No	Name of Utility (Seller)	Name of Purchaser	Type	Year	Purchase Price	SFBS	S/SFE
1	Carolina Water Service, Inc.	CMUD - (Idlewood Subdivision)	W	1995	\$213,422	92	\$2,320
2	Carolina Water Service, Inc.	CMUD - (Providence West)	W	1995	\$225,688	99	\$2,280
3	Carolina Water Service, Inc.	CMUD - (Southwoods)	w	1995	\$404,766	153	\$2,646
4	Carolina Water Service, Inc.	CMUD - (Hampton Green)	w	1995	\$496,758	227	\$2,188
5	Carolina Water Service, Inc.	CMUD - (Forest Hills)	W	1995	\$545,820	197	\$2,771
6	Carolina Water Service, Inc.	CMUD - (Saddlebrook)	W	1995	\$130,016	56	\$2,322
7	Carolina Water Service, Inc.	CMUD - (Suburban Woods)	W	1996	\$78,500	94	\$835
8	Carolina Water Service, Inc.	CMUD - (Mallard Crossing)	1 w	1994	\$214,604	88	\$2,439
9	Carolina Water Service, Inc.	CMUD- (Habersham)	w	1995	\$326,266	133	\$2,453
10	Carolina Water Service, Inc.	CMUD - (Hidden Hills & Farmwood)	w	1995	\$212,195	90	\$2,358
11	Carolina Water Service, Inc.	CMUD-((Earawoods)	W	1997	\$155,900	71	\$2,196
12	Carolina Water Service, Inc.	CMUD - (Brandonwood)	w	1997	\$85,300 .	95	\$898
13	Carolina Water Service, Inc.	ICMUD - (Farmwood A / Applecreek)	w	1997	\$710,000	309	\$2,298
14	Carolina Water Service, Inc.	CMUD - (Farmwood 15,20,21)	W/S	1997	\$785,500	298	\$2,636

Average Price Per Water And Wastewater Customer Combined:

\$2,188

River Hills Utility System

Number of Total Water and Wastewater SFE's:

Total Implied Purchase Price based on recent CWS sales:

\$4,923,913

2,250

# **Considerations and Background Information**

# Lake Wylie Area Water and Sewer Service

# December 14, 2005.

# Water and Sewer System Structure:

The Lake Wylie area of York County is, for public water and sewer service, served by Carolina Water Service, Inc. (CWS). CWS is a private public utility company operating in South Carolina. CWS is a wholly-owned subsidiary of Utilities, Inc., a Chicago, IL based utility holding company which is, in turn, owned by a Dutch international holding company.

Carolina Water Service (CWS) has owned and operated a water and sewer system in the Lake Wylie area since the late 1970's. The original system was built, primarily between 1970 and 1975, by the River Hills Plantation Company, the developer of River Hills Plantation in Lake Wylie. The system included sewage collection and processing and water acquisition and distribution. Water was obtained from deep wells in River Hills Plantation, and processed sewage effluent from a processing plant in River Hills was released in Lake Wylie. In late 1996, York County completed and began operating the necessary infrastructure to transport sewage to RAGERHILS SCHOOPPORESSING and to transport water, first throw York, SG and now from RECKHILL, SC to Lake Wylie. Since this time, CWS involvement has been limited to the operation of the sewage collection and water distribution system to and from the York County facilities and from and to users in the CWS Lake Wylie Franchise District.

The Franchise District includes an area bounded on the east by Lake Wylie, on the north by the North Carolina state line, on the northwest by Riddle Mill Road, on the southwest by Bethel School Road, and on the south by a combination of Mountain View Road, SC Highway 49 from the Charter Oaks subdivision to Five Points, and Lake Wylie Road and connecting roads to Lake Wylie. The District includes residential areas in River Hills Plantation, Forest Oaks, Lake Wylie Woods, Hamilton Bay Apartments, The Landings, Autumn Cove, Patriot's Crossing, and Mill Creek Falls. Also included are the Waterside Marketplace, Lake Wylie Plaza, Crowdler's Creek Elementary and Middle Schools and several other public, religious and commercial facilities.

In summary, the Lake Wylie area is served by a three-level system composed of CWS as the initial collector of sewage and final distributor of public water, with York County as the operator of the "transport system" moving sewage to Rock Hill for processing and moving public water to Lake Wylie for distribution by CWS, and with the City of Rock Hill as the processor of sewage and provider of public water.

Regulatory oversight of the system is provided by the South Carolina Public Service Commission (SCPSC) and its Regulatory Staff; and by the South Carolina Department of Health and Environmental Control (SCDHEC). SC Legislators representing the area comprising the District include State Senators Hayes and Peeler and State Representatives Norman and Kirsh. The District is represented on the York County Council by Councilman Johnston

# **System Adequacy:**

In general, the CWS system has "met minimums". That is to say it has been an adequate water and sewer system in terms of meeting minimum standards established by state and federal agencies. There don't appear, however, to be any meaningful standards associated with the relative operational efficiency of a private utility company in the water and/or sewer business. So long as the company provides "adequate" service, and does so in a manner which appears to be "as good as they can do", no consideration is given by the regulators, when setting rates, to the company's relative efficiency as measured in cost per gallon of water delivered or per gallon of sewage handled. So long as the water is potable most of the time, and the sewage spills are few and relatively small, and service interruptions are few and relatively short, everything is considered fine. There is no required relationship between functional efficiency and rates.

There have been numerous instances over the life of the system where system failures, either temporary or long-term have drawn regulatory criticism and, in some cases, have forced directed remedies. These have included multiple spills of raw sewage in Lake Wylie; various leaks and failures of pumping facilities and pipes; odor problems around CWS facilities; odor problems with the water supplied; and coloration, mineral deposits, staining, etc. problems with the water supplied. Some of these problems have been in the nature of "normal" maintenance with a system of this type. However, it is believed by many that a large portion of these problems could have been avoided by CWS with a combination of better planning and implementation for the upgrading of capital facilities and equipment, and better management of day-to-day operations.

The CWS management philosophy seems to be reactive as opposed to anticipatory regarding operational problems.

A major piece of the system – the component serving approximately 1100 homes within River Hills Plantation – is between 30 and 35 years of age. Not many substantial improvements have been made to this segment of the system, and, as a result, the operational integrity of the system is at question. During the reconstruction of the roads in River Hills, CWS tended to be obstructive and uncooperative, despite having agreed that they would reconstruct segments of the sewer system found to be collapsed or beyond reasonable repair. They resisted fulfilling their agreements with regard to replacing collapsed or otherwise failed pipes and the necessary substructure around the pipes. Many believe this shows a marked disregard for both the current condition and the future usefulness of the system.

On the other hand, there are also large segments of the system such as the water and sewer infrastructure within The Landings, Autumn Cove, Mill Creek Falls and other recent residential, commercial, public, and religious facilities which have been installed and donated to CWS by the developers of these communities and facilities. These facilities, because of their relative newness, should meet all current standards and require only minimum maintenance.

A consideration with respect to this situation is that the CWS system is a combination of old, fully depreciated, and likely suspect facilities over 30 years of age and new facilities less than 10 years of age which have been obtained by CWS from developers at little or no cost to CWS. This does not appear to make for a system which brings with it much management or financial commitment on the part of CWS as the owner, nor is it a system which appears to justify high rates – reportedly twice the local and national average - on the basis of either return on assets or return on investment.

A further consideration relates to the relatively small size of the system. Without evidence to the contrary, it appears to many that both CWS's Lake Wylie water and sewer system, and CWS's grouping of systems throughout South Carolina (on which the Lake Wylie rates are based) are too small individually and collectively to be able to be operated efficiently, assuming that "efficiency" connotes both operational reliability and a cost structure supporting competitive pricing.

Yet another consideration is that, while growth appears to be required in order to increase the relative efficiency of a system such as CWS's Lake Wylie water and sewer system, the high rates produced by the currently relatively small size are a deterrent to the growth required to fix the problem. The word gets around in the residential real estate market concerning high rates. High rates have a significant negative impact on the ability of a community to lure businesses to the area. Yet business growth is required in order to keep a reasonable balance in property tax rates between businesses and residences. High utility rates tend to produce a spiral of lower growth and lower property values. But the absolute amounts of property taxes need to increase to maintain excellence in the public schools and amenities in the community. Sooner or later, the bubble thus created has to burst.

In summary, while the CWS system generally meets the minimum standards imposed by state and federal regulators, the price / performance of the system - in the almost universal opinion of its customers - is very poor. This is, in great part, a reaction to water and sewer rates that are excessive by comparison with rates for comparable service in other areas, and a reaction to ----paying-physing-these grates for experienced by states yet thick hole does not seein, in any financial Ny reasonable manner, to justify the rates. The general approach to maintenance and management of the system is that of an operator who is bent on maximizing short-term revenues to the detriment of long-term operations.

#### Regulatory Rate Setting Process:

The most recent request of CWS for a rate increase, submitted at the end of 2004, included several (reportedly approximately 11 separate locations) CWS systems in South Carolina. The Tega Cay system was not, for unknown reason, included. While the CWS application indicates that a map of these locations is on file at the SCPSC, a copy was not included in the application. The application does indicate that, at the time of the application, there were about 5,700 water customers and 9,800 sewer customers represented. It's not clear how many are water-only, sewer-only, or both. No breakdown between residential and commercial customers is provided. No indication is given of individual system size. Some growth in the customer base is indicated, but no time frame is provided during which the growth is expected. No breakdown of the Balance Sheet or Income Statement by individual system is provided.

The statement is made by CWS in the application that the "Applicant is entitled to have the reasonableness of its proposed rates determined in accordance with the rate of return on rate base methodology." The rate base is primarily composed of "Gross Plant in Service" reduced by the amount of "Accumulated Depreciation" and "Contributions in Aid of Construction" (the latter is assumed to be infrastructure built by developers and donated to CWS). Because of the nature of the Lake Wylie area water and sewer system, most of the Gross Plant in Service is either greatly depreciated because of its age and likely had a low initial cost (the River Hills portion), or has

been contributed recently by developers of such areas as The Landings, Autumn Cove, Forest Oaks and Mill Creek Falls. Thus the Net Rate Base of the Lake Wylie District for purposes of determining net operating income should be relatively small, although the number of customers may be as high as 30% to 40% of the total customers referred to in the application. This appears to mean that the Lake Wylie District, because of the combining of it with several other districts, is likely, to be subsidizing the overall net operating income and rate base dictated by the rate base methodology while other districts are potentially contributing less than their fair individual share.

If it can be assumed that the statements and the adjustments made thereto are fair and reasonable, the "painting of all the CWS systems with the same brush" appears to be the major potential inconsistency in the process of determining the rate base and the resulting rates to achieve a "fair" rate of return.

Unfortunately, the regulatory rate-setting process does not and, probably, cannot reasonably take into account the size of an individual system in setting rates. But there do seem to be economies of scale. It's not clear how the size of a system affects the ultimate cost per customer, but it seems likely that smaller systems such as Lake Wylie and the others in the CWS rate base are relatively inefficient, with a relatively high cost pel customer. Comparisons of Lake Wylie rates to larger nearby systems and to the national average rates indicate that the effect of system size is substantial. It may be that regulated publicly owned and operated monopolies structured on as large a scale as practical are the only way to handle "commodity" utility services such as water and sewage if the public is to be able to obtain economical utility service. But, since the SCPSC is not likely to champion such an environment, the effort to do so must come from the grassroots level.

Having surmised all of the above, it doesn't appear that any definitive conclusions can be drawn without a good deal of additional information.

# <u>Questions Related to the Status and Future of the CWS Lake Wylie Water and Sewer System:</u>

Suffice to say that the water and sewer rates in the Lake Wylie Franchise District are high. Any conclusion as to whether they are unreasonably high and whether there is anything that can reasonably be done about them requires a good deal of additional information. Following are some questions and considerations which need attention: This is likely only a partial list of what is required in order to proceed to any significant next step. The questions are not in any particular order of importance or priority.

- 1. A study of the Lake Wylie Franchise District water and sewer system and rate base was reportedly undertaken by York County following an earlier rate increase. It's not clear exactly what the content and purpose of the study was and what, if any, conclusions were drawn. Is this study or partial study available?
- 2. A management audit of CWS was requested and reportedly agreed to by the SC PSC Regulatory Staff. What is the status of this audit?
- 3. Detailed information is required regarding the Lake Wylie Franchise District water and sewer system operated by CWS. This includes a balance sheet, income statement, and capital assets list with valuations, sources and dates of construction and acquisition, and detailed information on numbers and types of customers.

- 4. Detailed information as above is required on other CWS systems in York County, so that a reasonable plan for the County can be developed.
- 5. Detailed information as above is required on other CWS systems in South Carolina, so that reasonable conclusions can be reached regarding the combined rate setting process.
- 6. Detailed information as above is required on the portion of the Lake Wylie system infrastructure which is owned and operated by York County including its financial status and expected growth.
- 7. Detailed information as above would be useful regarding the other water and sewer systems operating in York County including Rock Hill, Fort Mill, Tega Cay, York and Clover including what are the current rates for water and sewer service in each?
- 8. What are the water and sewer rates in nearby areas such as Mecklenburg County, Charlotte, Gaston County, Gastonia, etc.?
- 9. What is the process for public acquisition of a private asset such as all or part of the CWS presence in York County through eminent domain or other means? What is required to initiate the process in areas such as information and approvals? How long does the process likely take? What twists and turns in the process should be anticipated?
- 10. What state and/or federal grants might be available to assist in the study and/or development of a local, county-wide, or regional water and sewer system?
- 11. What sources of funds are available for acquisition and payoff of such a system e.g. bonding, taxes, system revenues, etc. How would this be structured?
- 12. Who would "own" the system e.g Rock Hill, York County, a "Lake Wylie Water and Sewer Authority", the "Town of Lake Wylie", etc.
- 13. Does the State of South Carolina or York County have the wherewithal to force the creation of a county-wide water and sewer system through the consolidation of the existing systems in the county? Why would either want to do this? Why wouldn't either want to do this? Why would the individual systems want to have this happen? Why not?

The primary sources of the answers to the questions and the data required are the SCPSC, the Regulatory Staff of the SCPSC, York County Staff, the York County Attorney, CWS, and knowledgeable citizens. The primary communication points with these sources are our legislators, councilpersons, public advocates, and citizen groups organized with an improved local water and sewer system as their objective.

#### **Special Tax District Considerations:**

One alternative to provide a structure for the funding of a buyout of CWS is the creation of a Special Tax District. This would likely be done in conjunction with a bond issue to generate the initial funds needed for purchase. Special Property Taxes collected within the district would be used to repay the principal and pay the interest on the bond. It might also be possible to use some portion of the revenues from the system to assist with the repayment.

Powers are granted to the counties by South Carolina state statute under the Home Rule Act to tax different areas of the county at different rates in order to provide for a particular service or for an enhancement of a service already provided. Special tax districts can be created to address any number of service needs that residents of an area desire.

Creation of a special tax district can be initiated in one of three ways:

- 1. By petition of 15% of the electors (registered voters) in a proposed district to the county council, triggering a special election. (Can be at the time of a regular election or at another time selected by the council).
- 2, By a petition of 75% of the resident freeholders (property owners) who own at least 75% of the assessed value of real property in a proposed district to the county council.
- 3. By ordinance of the county council when the proposed special tax district comprise the entire unincorporated area (of the county).

The special tax district may be operated as an administrative division of the county, or county council may appoint a commission consisting of three to five members and provide for their terms of office.

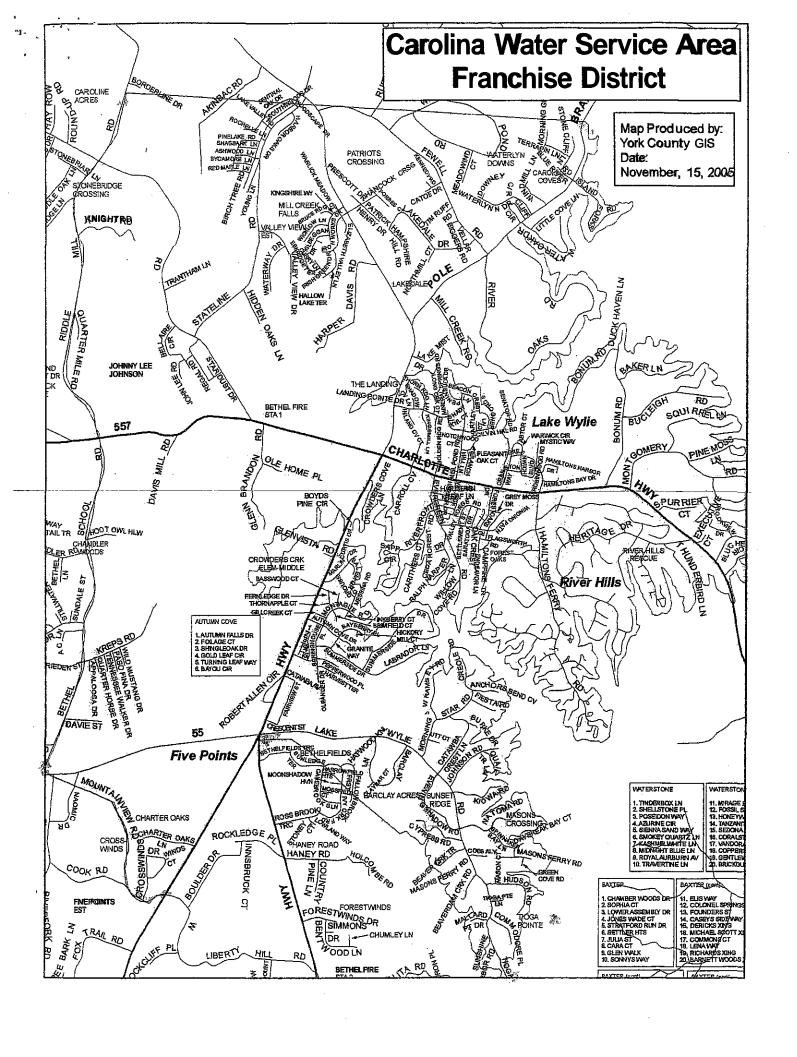
In this case, the special tax district could include all of the area within the franchise area granted to Carolina Water Service. It might also be possible to include adjoining areas for which no franchise currently exists, if any such areas exist.

# Ultimate Service Area Objective:

A question to be dealt with is whether this special tax district (proposal) might be combined with other similar special tax districts in areas such as Clover, York, Tega Cay, Smyrna, Hickory Grove, Sharon, and Fort Mill, so as to include all the area outside the Rock Hill service area. Should the ultimate objective be to combine all these areas into a county-wide system operated Through and Othy the current Rock-Hill Water and Sewer Service.

# Ownership and Financial Information Regarding CWS:

As comprehensive a set of information as is or can be required to be publicly provided by CWS is needed in order to realistically evaluate the possibility of York County or other public entity acquiring the assets and operations of CWS in the Lake Wylie Area and/or in other parts of York County which may become a part of the overall plan.



Estimated Bills (based on 1,000 cf or 7,500 gal residential monthly usage)

City/County	State	Water	Sewer	Combined
Charleston ,	SC	\$ 15.81	\$ 42.16	\$ 57.97
Clover	SC	\$ 41 <i>.</i> 44	\$ 67.91	\$109.35
Fort Mill	SC	\$ 23.53	\$ 30.48	\$ 54.01
Georgetown County	SC	\$ 22.76	\$ 29.66	\$ 52.42
Greenville	SC	\$ 10.85	\$ 32.25	\$ 43.10
Horry County	SC	\$ 17.81	\$ 19.45	\$ 37.26
Rock Hill	SC	\$ 18.51	\$ 34.84	\$ 53.35
Spartanburg	SC	\$ 14.29	\$ 30.50	\$ 44.79
York County	SC	\$ 37.16	\$ 42.56	\$ 79.72
Asheville	NC	\$ 35.62	\$ 34.50	\$ 70.12
Cary	NC	\$ 24.30	\$ 25.76	\$ 50.06
Chapel Hill	NC	\$ 26.98	\$ 28.85	\$ 55.83
Charlotte	NC	\$ 12. <b>45</b>	\$ 24.55	\$ 37.00
Durham	NC	\$ 14.14	\$ 27.80	\$ 41.94
Fayetteville	NC	\$ 19.37	\$ 32.38	\$ 51.75
Gastonia	NC	\$ 29.07	\$ 35.39	\$ 64.46
Greensboro	NC	\$ 16.15	\$ 21.00	\$ 37.15
Wilmington — — — —	Ne	\$ <b>\$</b> 1 <b>11.60</b>	\$ 26.90	\$-38050
Sample Average		\$ 21.77	\$ 32.61	\$ 54.38
US Average for All Systems *		\$ 19.85	\$ 23.63	\$ 43. <b>48</b>

<sup>\*</sup> from the RFC 2004 Rate Survey

# ESTIMATED VALUE

# OF THE

# CAROLINA WATER SERVICE, INC. WATER AND WASTEWATER SYSTEM IN YORK COUNTY, SC

August 23, 2007

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#### REPORT SUMMARY

The purpose of this analysis is to estimate the market value of the Carolina Water Service, Inc. (CWS) water and wastewater system in the Lake Wylie area, including the River Hills systems, located in York County, South Carolina.

# Valuation of the CWS System

The analysis presented in this report is based on both a 25-year period and through to perpetuity. The appraisal methods and their results are summarized in the table below:

Valuation Method	Estimated Value of the CWS Water and Wastewater System							
Income Capitalization Assessiness of the untility's value as an on-going business concern	\$1.9 million (25-year lifecycle) \$3.4 million (in perpetuity)							
Replacement Cost Less Depreciation Assessment using the replacement cost of the assets as the basis for valuation	\$6.6 million							
Comparable Sales .  Excludinavihe recent saleslof systems Of similar types, locations, and sizes	\$11.2 million							

# Income Capitalization Approach

Using a 25-year period of analysis, the value of the water system is estimated to be worth approximately \$0.9 million and the wastewater system is estimated to be worth \$1.0 million (Table 2-5). Their combined valuation is approximately \$1.9 million.

Extending the period of record into perpetuity results in a combined value of approximately \$3.4 million (\$1.6 million for water and \$1.8 million for wastewater).

# **Replacement Cost Less Depreciation Method**

Based on the documentation of assets, the estimated replacement cost for CWS' major assets is \$28.2 million. Stibtra tingli/accumulated depreciation based on construction date yields a replacement cost less depreciation of \$14.5 million. Considering the value of contributed assets, the net estimate of the system's value under the RCLD approach is \$6.6 million, which includes both the water and wastewater system (Table 2-8).

# **Comparable Sales Method**

A range of sources was considered in developing the comparable sales approach. There have been just a few recent system sales in South Carolina, none in proximity to the CWS system.

Perpetuity is defined as the period of time in which the present value factor goes to 0.000, using an 8.60% discount rate, which makes the years of 2005-2094 the period of analysis for this study.

These recent South Carolina transactions suggest a total value in the range of \$5.0 million. Comparable sales from North Carolina primarily consist of Charlotte-Mecklenburg Utilities' (CMUD) purchases of surrounding developer systems during the 1990's. The most defendable estimates appear to be those developed by Hartman and Associates in 1998, when York County initially contemplated acquiring the River Hills system. Adjusting these estimates for inflation and system growth results in a total system value estimate ranging from \$10.7 to \$11.6 million. However, it should be noted that these estimates do not consider Contributions in Aid of Construction (CIAC) that may offset the system's market value.

# **Summary of Valuation Estimates**

The income approach yields the lowest value, and the comparable sales yields the highest value with a difference of \$7.8 million between them (see Table 2-11). The RCLD approach lies between but is closer to the income approach estimate. Oxfall, the range of estimated values is quite wide. A possible explanation for the income approach yielding assignificantly lower estimate may be the constraint placed on the owner's return, due to a lack off rate base attributable to depreciated assets and substantial CIAC. As a result, the South Catalina Office of Regulatory Staff (ORS) and Public Service Commission appropriately constrains QWS profit to a rate of return on operating expenditures. However, many limities have a rate base in excess of annual operating expenditures. If this was the case with CWS, the income approach would yield higher values for the enterprises.

# 1.0 Introduction

# **Purpose**

The purpose of this analysis is to estimate the market value of the Carolina Water Service, Inc. (CWS) system in the Lake Wylie area, including the River Hills community. York County, South Carolina (the County), is currently considering purchase of the CWS system for purposes of integration with its own utility systems. The purchase price and required capital improvements will be a critical component of the overall feasibility of the County's acquiring and operating the CWS system. This valuation includes the water and sewer assets of CWS located within the "CWS Service Area" of York County as established by the franchise agreement dated January 28, 1992, between Carolina Water Service, Inc. and York County. See Figure 1 for the location of the CWS Service Area. Current water and wastewater system maps within the CWS Service Area were provided to HDR Engineering, Inc. of the Carolinas (HDR) by the County from information provided to it by CWS.

#### Methods of Valuation

Three standard appraisal methods will be used to estimate the utility's value: the income capitalization approach, the replacement cost approach, and the comparable sales approach. These approaches are briefly discussed below: Unique characteristics of the CWS system with respect to the application of each of these methods are discussed in subsequent sections.

# **Income Capitalization Approach**

The income capitalization lamproach assesses the utility's value as an on-going business concern. The present value of future profits generated by the enterprises is considered in order to determine hew touch effective afford to pay for the suming that CWS will continue to operate the system in the same manner in which it is currently operated. Since the South Carolina Office of Regulatory Staff (ORS) and the SC Public Service Commission caps the rate-of-return on privately-owned regulated utilities, such as CWS, there is some certainty regarding the allowed "profits," and consequently the value of the systems.

# Replacement Cost Approach

As suggested by its name, the replacement cost approach uses the replacement cost of the assets as the basis for their valuation. In most cases, the replacement cost also considers the accumulated depreciation of RCNLD. This method has a wide degree of acceptance in helping to place values on water and wastewater utilities but has some shortcomings with respect to assessing functional obsolescence of assets and inherent uncertainties regarding the condition of buried assets.

# Comparable Sales Approach

The comparable sales method examines the recent sales of systems of similar types, locations, and size. It is a true market test of the systems, regardless of their income generating capacity or replacement cost. As attractive as this market test may be, water and wastewater systems are not

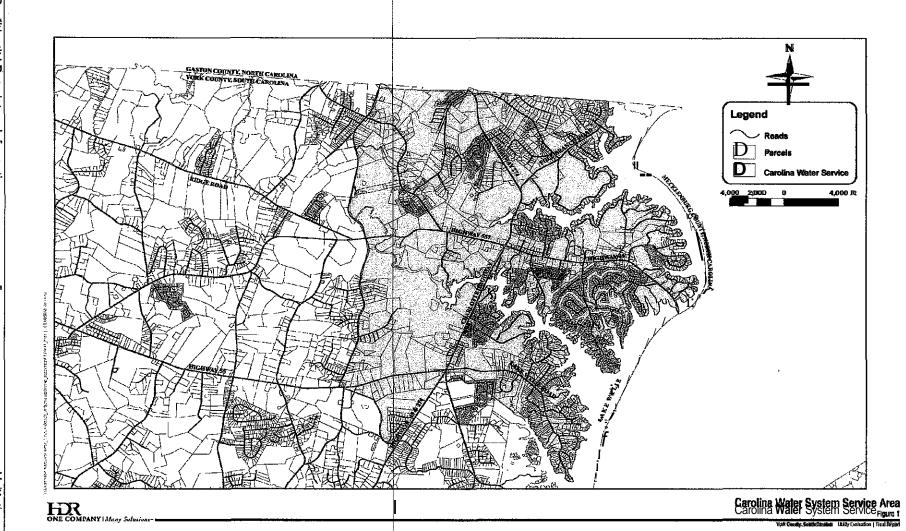
homogeneous commodities and finding truly comparable sales may be difficult. However, there are several potential metrics that can be used to normalize this method for application across utilities of varying sizes, including a simple sales price per customer benchmark and a sales price to book value ratio.

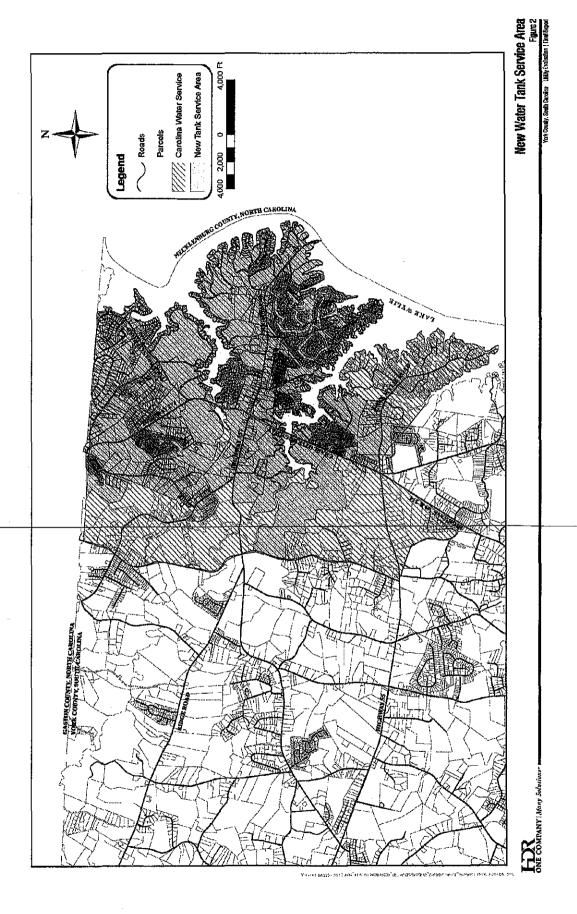
# Integration of the County System with the CWS Water and Wastewater Systems

The CWS system is currently supplied with potable water on a wholesale basis from the County. The County purchases this water from the City of Rock Hill. Wastewater treatment for CWS is also provided by the County, who transports the wastewater flowl from CWS to the City of Rock Hill for wastewater treatment and discharge. In regard to water supply, and wastewater treatment, the County and CWS systems are integrated. Should the Country acquire the CWS system, the wholesale aspect of the County's operations would terminate and the current CWS residential and commercial customers would become County retallicustomers. County dilling systems would require updating to effect this change. The County is currently converting its water meters from conventionally read meters to Automated Meter Reading (AMR), For consistency, the meters in the CWS Service Area would need to be updated with AMR.

HDR has conducted a preliminary engineering evaluation off the water storage needs of the CWS Service Area. In order to serve the current CWS customers meeting the criteria of one day of elevated water storage, the area should have 500,000 gallons of elevated water storage. The existing elevated storage tank in the service area is 200,000 gallons. To meet the future needs of the area indicated in Figure 2, at 'build-out' 125 million gallons of storage is required to meet the one-day storage requirement. This sizing assistings that the existing tank would also remain in service.

The County has rigorous policies governing the **Sysperty** tights concerning the location of its infrastructure assets. Typically, the County has fee simple title to the property for its pumping stations, tanks, and sites for other above graphing structures. The County holds rights-of-way or easements for all buried assets such as water and sewer lines and appurtenances. This policy facilitates ongoing operations, maintenance, and expansion activities. Based on the data provided, the property rights for the assets of CWS are unclear and access rights to the assets should be resolved as Part of the acquisition.





# 2.0 VALUATION OF THE CWS SYSTEM

# **Income Capitalization Approach**

Several characteristics need to be considered when developing the income capitalization approach for the CWS system. They are as follows:

- From a utility rate-making perspective, CWS does not have a significant rate base. The rate base can generally be defined as the book value of existing assets, or its original cost less accumulated depreciation. Regulatory agencies typically allow a rate of return on the rate base, or book value, of a private utility's assets. This mate of return times the book value is the "profit" allowed by the agency. Although in good working condition, some of the CWS system's assets, particularly in the River Bills area, are nearing their expected useful lives. In addition, a major portion of the assets was contributed by developers in the form of Contributions in Aid of Construction (CIAC). A private utility is generally not allowed a rate of return on these contributed assets. The cost of a CIAC asset was passed on to the customer in the cost of the property by the subdivision developer, and therefore was already paid for by the time the asset was given to CWS. Therefore, CWS is not allowed to charge the customers again for the same asset. Stated another way, there is not much value in the colditiibuted assets of which the water and wastewater system owner can claim a rate offertillen. However, despite a low rate base, the ORS allows CWS to gain an approximate 8800 percent return on O&M expenditures. Therefore, annual revenue for the water and wastewater systems is the sum of CWS' O&M expenditures (prior to income taxies) plus the allowed 8.00 percent rate of return.
- Based on the data provided by CWS and its regulatory filings, there appear to be relatively few planned tartimal improvement projects. Although the system provides reliable water and wastewater services indexing system are not aggressively putsiving system expansion or capital upgrades. In response to this; a previous valuation assumed that the utility would only be in operation for 25 years, and its estimated valuations based on the present value of income over this period. In most cases, althlich longer period of analysis is considered, including values into perpetuity. This analysis will report water and wastewater income capitalization valuations on both a 25-year period of analysis and in perpetuity.

# Assumptions USEtilfor thellincome Capitalization Approach

The following assumptions were incorporated into the income capitalization approach:

- An inflation rate of 3 percent per year was assumed for all future costs.
- The CWS water and wastewater systems, including both usage and the number of customers, is assumed to grow at a rate of 2 percent per year through 2055, and 1 percent thereafter.

<sup>&</sup>lt;sup>2</sup> Perpetuity is defined as the period of time in which the present value factor goes to 0.000, using an 8.60% discount rate. Based on this, years 2005-2094 is the period of analysis.

- All expenses and revenues reported by CWS in its 2005 rate case filing are incorporated into this analysis. To the extent information is available, revenues and expenses were allocated between the water and wastewater enterprises as reported to ORS. If not already allocated, revenues and expenses were evenly divided between the two enterprises. Exceptions were made for meter reading and chemicals, which were directly allocated to the water utility (for meter reading) or allocated based on engineer's judgment.
- Water operating revenues include water or wastewater service tharges and other non-operating revenues such as connection meter fees, new customer charges, and miscellaneous fees. The non-operating revenues were evenly allocated between the water and wastewater enterprises.
- System operating costs are assumed to increase over time with the rate of inflation and with the rate of system growth. An exception to this is water meter reading costs, which, due to the future prevalence of automated reference reading (AMR) technology, will likely decrease in real terms over time. For this analysis, increases in meter reading costs after 2010 are assumed to be for inflation only, implying that there will still be some level of meter reading required in 2010. However, in proportion to operating costs, meter reading costs will decline steatily.
- Enterprise revenue requirements, which are assumed equal to revenues, are calculated as the system's total operating expense plus depreciation, plus amortized capital improvements, plus taxes other than income taxes, plus the allowed return.
- The allowed return is calculated as the operating expense plus property and payroll taxes times the allowed rate of return, or 8.00 percent of this sum.
- It is assumed that the ORS and PSC will allow CWS to increase water and wastewater rates in a continuous manner to keep pace with increasing operating costs.
- Taxes other than income tax are trended upward from their current levels through the period of analysis.
- Incomile tax rates were assumed to be 20.6 percent of total operating income.
- The period of analysis is 2005-2094. For brevity, estimated values for years 2014 through 2093 are not shown in subsequent tables, but will be supplied to the County electronically by HDR.

# Water System Revenue and Net Operating Income

Table 2-1 shows revenues, expenditures, and net operating income for the CWS water enterprise over the period of analysis. Table 2-2 shows how the revenue estimate was derived as the sum of operating expenses plus the allowed rate of return. The allowed rate of return is the sum of operating expenses plus taxes and fees, all multiplied by 0.080.

Table 2-1 shows that income taxes are paid on the total operating income (revenues minus operating expenses and taxes other than income tax). The net operating income serves as the basis for the income capitalization approach.

# Wastewater System Revenues and Net Operating Income

Tables 2-3 and 2-4 correspond to Tables 2-1 and 2-2, respectively, and show how net operating income was derived for the wastewater system.

# Results of the Income Capitalization Approach

Table 2-5 derives the income capitalization value of the water and wastewater systems. These values do not yet include financial assets, or other assets or liabilities of the CWS system. For each system, net operating income is estimated for each year of the period 2005-2094. This figure is multiplied by the discount factor applicable to each year. These discounted income estimates are summed over the period 2005-2029 (25) #8 ars) and through perpetitivity.

Using a 25-year period of analysis, the values of the water and wastewater systems are nearly identical. The water system is estimated to be worth slightly less than \$1.0 million (\$0.93 million) and the wastewater system is estimated to have a value of \$1.0 million, for a combined valuation of about \$1.93 million.

Extending the period of record into perpetting will fesult in a combined value of approximately \$3.45 million (\$1.65 million for water and \$1.80 million for wastewater).

# Replacement Cost Metalitwi

Developing the RCLDIffnethod of Valuation required four tasks:

- Document inspection to verify the presence and condition of the assets.
- Develop estimates of replacement costs for each type of asset.
- Adjustment of the replacement cost by the accumulated depreciation for each major type of asset.
- Derivation of the RCLD value estimate.

# System Verification

HDR was provided with system maps supplied to the County by CWS. In addition, several other maps for subdivisions were obtained from the CWS field staff or from County Engineering. Based on this data acquisition and field confirmation, HDR believes that the current assets of CWS have been tabulated in the County Geographic Information System (GIS). The level of detail that has been input into the GIS varies based on the detail provided in the CWS mapping information. For example, for most of the more recently constructed subdivisions, actual construction "as-built" drawings were used resulting in the most accurate information. In other sections, specifically the original River Hills system, construction drawings are not available, so the level of detail input into GIS from the maps provided is less. Table 2-6 lists the various system expansion areas for the CWS system and the year of inclusion into the CWS System for depreciation purposes.

Table 2-1 Carolina Water Service, River Hills Service Area Water Utility Operating Income

Inflation Rate	3.00%			A.A.												
Growth Rate	2.00%		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
	2005	2006	2007	2008	2009	¹ºº2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
•	Yang d	Guz		i gjestik Helioped	22-	15.07 15.07										
Walter operating revenues (Table 2-2) /1	\$ 703',305	5 5 704,621	\$ 740,275	\$ 777,733	\$ 817,086	\$ 4858\431	\$ 901,360	\$ 946,445	\$ 993,797	\$1,043,528	\$1,095,759	\$1,150,615	\$1,208,230	\$1,268,742	\$1,332,297	\$11,399,048
Administrative and General Expenses		MA.	.a(1)		(1200) (1200) (1200)		5									
Salaries and wages	\$ 40,738	\$ 42,799	\$ 44.965	\$ 47,240	\$ 49,631	52,142	\$ 54,780	w	3 60,464	\$ 63,524	\$ 66,738	<b>9</b> 70,115	<b>3</b> 73,663	\$ 77,390	\$ 81,306	\$ 85,420
Permit fees	6,036	6,341	"/56,6362"=	6,999	7,353	7,725	8,116	8,527	8,958	9,411	9,888	10,388	10,913	11,466	12,046	12,655
Purchased water, net	1,898	-	-		-	7776	800-1 98'5' - T	-	-	-	-	-	-	-	-	
Purchased power	6,070	6,377	6,700	7,039	7,395	7,769	8,162	8,575	9,009	9,465	9,944	10,447	10,976	11,531	12,115	12,728
Chemicals	563	591	621	653	686	721	757	795	836	878	922	969	1,018	1,070	1,124	1,181
Meter reading	17,466	18,350	19,278	20,254	21,279	22,355	23,026	23,717	24,428	25,161	25,916	26,693	27,494	28,319	29,169	30,044
Uncollectable accounts (allocated to W	3,224	3,387	3,559	3,739	3,928	4,127	4,335	4,555	4,785	5,027	5.282	5.549	5.830	6.125	6,435	6,760
Outside services	47	49	52	55	57	60	63	66	· 70	73	77	81	85	89	94	59
IT Department	- "	-	-	W: _	2.54							-	-	-	-	
Rent	-	_	_	- A _	Je Go		_	1000	_	_	_	_	_	_		_
Office supplies	392	411	432	454	477	501	526	553	581	610	641	674	708	744	781	821
Billing and customer service	352	-		-	337 77	201		100	301	-	-	0,4	700	, , , ,	701	021
Insurance	4,245	4,459	4.685	4.922	5,171	5.433	5,708	5.996	6,300	6.619	6,953	7,305	7.675	8.063	8,471	8,900
Office utilities	729	765	804	845	888	932	980	1,029	1.081	1,136	1,193	1,254	1,317	1,384	1,454	1,528
Miscellaneous expense	4,568	4,799	5.042	5,297	5. <b>56</b> 5	5.847	6.143	6.453	6,780	7.123	7,483	7,862	8,260	8,678	9,117	9,578
Expenses allocated from WSC	73,615	77,340	81.253	85,365	89,684	94,222	98.990	103,999	109,261	114.790	120.598					
Short from interest expense			81,233 595	626	657	691		762			884	126,700 929	133,111	139,847 1.025	146,923 1.077	154,357
Subtotal Subtotal	540	567 166,237	174,649				725		801	841			976			1,131
Subtotal	160,129	100,237	174,049	183,486	192,770	202,524	212,312	222,580	233,354	244,659	256,520	268,966	282,026	295,730	310,111	325,201
Water Operating Expenses						į	4794				14 A					
Salaries and wages	242,591	254,866	267,762	281,311	295,545	310,499	326,211	342,717	360,058	378,277	397,418<	417,528	438,654	460,850	484,169	508,658
Water plant maintenance	25,003	26,268	27,597	28,994	30,451	32,002	33,621	35,323	37,110	38,988	40,961	43,033	45,211	47,498	49,902	52,427
Maintenance of facilities	5,280	5,547	5,828	6,123	6.433	6,758	7,100	7,459	7,837	8,233	8,650	9,088	9,547	10.030	10,538	11,071
Operators expense	2,729	2,867	3,012	3,164	3,324	3,492	3:669	3,855	4,050	4,255	4,470	4.696	4,934	5,183	5,446	5,721
Testing	(12,935)	•	(14,277)	(15,000)	(15,759)	(16,556)	(17,394).	(18,274)	(19,198)	(20,170)	(21,190)	(22,263)	(23,389)	(24,573)	(25.816)	(27,122)
Subtotal	262,667	275,958	289,921	304,591	320,004	336,196	353,207	371.080	389,856	409,583	430,308	452.082	474,957	498,990	524.239	550,765
	,							- 17 T	,	,				,		,
Depreciation	95,168	99.984	105.043	110,358	115.942	121.809	127,972	134:447	141,251	148,398	155,907	163,796	172,084	180.791	189,939	199,550
Taxes other than income	132,592	139,301	146,349	153,755	161,534	169,708	178,295	187,317	196,795	206,753	217.215	228,206	239,753	251,885	264,630	278,020
Amortization tax credit	(1,297)		(1,431)	(1,503)	(1,580)	(1,659)	(1,743)	(1,832)	(1,924)		(2,124)	(2,231)	(2,344)	(2,463)	(2,588)	(2,719)
Amortization tax PAA	(1,042)		(1,150)	(1,208)	(1,269)	(1,334)	(1,401)	(1,472)	(1,547)	(1,625)	(D707)	(1,793)	(1,884)	(1,979)	(2,080)	(2,185)
Amortization of CIAC	(38,204)		(42,168)	(44,301)	(46,543)	(48.898)	(51,372)	(53,972)	(56,703)	(59,572)	(62,586)	(65,753)	(69,080)	(72,575)	(76,248)	(80,106)
Subtotal	187,218	196,691	206,643	217,099	228,085	239,626	251,751	264,489	277,873	291,933	306,705	322,224	338,528	355,658	373,654	392,561
Total operating income before income taxes	\$ 93,292	\$ 65,736		\$ 72,556	<b>9</b> 76,228	80,085	9 84,090		\$ 92,714	97,353	\$ 102,226	\$ 107,344	\$ 112,719	\$ 118,364	\$ 124,293	\$ 130,520
Income taxes	19,218	13,542	14,227	14,947	15,703	16,498	17,323	18,189	19,099	20,055	21,059	22,113	23,220	24,383	25,604	26,887
Net operating income	<b>74,074</b>	\$ 52,194	\$ 54,835	<b>57,610</b>	\$ 60,525	63,587	\$ 66,767	<b>3</b> 70,107	<b>9</b> 73,615	77,298	\$ 81,167	85,231	\$ 89,499	93,981	98,689	\$ 103,633

<sup>1</sup>f The value for 2005 is actual revenue for the water enterprise, consisting of Water charge revenues and a 50-50 all ocation of revenues common to both utilities. For 2006 and beyond, revenues are calculated from Table 2-2.

Table 2-2
Carolina Water Service, York County Service Area
Wafer Utility Opalating Revenues and Revenue Requirements

		1 77			4 - 27	35500250										
	2005	2006	2007	2008	2009	2010	/. 2011	2812	2013	20114	2015	2016	2017	2018	2019	2020
		575 y 1	- 50-08000		45.76	1 3	53:									
Operating expense (Table 2-1)	\$ 422,796	\$ 442,195	\$ 464,570	\$ 488,077	\$ 512,774	\$ 538,720	\$ 565,519	\$ 593,660	\$ 623,211	\$ 654,242	\$ 686,828	\$ 721,048	\$ 756,983	\$ 794,720	\$ 834,349	\$ 875,966
Depreciation	95,168	99,984	105,043	110,358	115,942	121,809	127,972	134,447	141,251	148,398	155,907	163,796	172,084	180,791	189,939	199,550
Amortization	(40,542)	(42,593)	(44,749)	(47,013)	(49,392)	(51,891)	(54,517)	(57,275)	(60,173)	(63,218)	(66,417)	(69,778)	(73,308)	(77,018)	(80,915)	(85,009)
Taxes other than income	132,592	139,301	146,349	153,755	161,534	169,708	178,295	187,317	196,795	206,753	217,215	228,206	239,753	251,885	264,630	278,020
Income taxes	19,218	13,542	14,227	14,947	15,703	16,498	17,323	18,189	19,099	20,055	21,059	22,113	23,220	24,383	25,604	26,887
Subtotal	\$ 629,231	\$ 652,427	\$ 685,440	\$ 720,123	\$ 756,561	\$ 794,844	\$ 834,592	\$ 876,338	\$ 920,182	\$ 966,229	\$1,014,591	\$1,065,384	\$1,118,731	\$1,174,761	\$1,233,608	\$1,295,415
					62.74	1	•	الم المعار	ž.,							
Allowed return	•				3,719	1		4500								
Allowable O&M expense	629,231	652,427	685,440	720:1262	3.7 <b>/56</b> 5661	794,844	834,592	876.338	920,182	966,229	1.014.591	1.065,384	1.118.731	1,174,761	1,233,608	1.295.415
Rate of return	8.00%	8.00%			8.00%	8.00%	7 % W 4	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Return	\$ 50,338	\$ 52,194	\$ 54,835	\$ 57,610	\$ 60,525	-,	\$<666,767	\$\.770,107	73,615	9 77,298	\$ 81,167	\$ 85,231	\$ 89,499	\$ 93,981	98,689	\$ 103,633
				•	THE STATE OF THE S	100	Š.	433		No.	•	•				
Total revenue requirement/revenues	\$ 679,570	\$ 704,621	\$ 740,275	\$ 777,733	\$ 817,086	\$ 858,431	\$ 901.360	\$-946,445	\$ 993,797	\$1,043,528	\$1,095,759	\$1,150,615	\$1,208,230	\$1,268,742	\$1,332,297	\$1,399,048
•						1		1,20				· ·				

Fable 2-3
Carolina Water Service, York County Service Area
Wastewater Utility Operating Income

			, - (1) (h.)	Alexander -	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	newater t	imity Oper	anng meo	IIIC							
Inflation Rate Growth Rate	3.00% 2.00%	2.00%	2.00%	2,90%	23/9/0	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
-	2005	2006	2007	2008	200	2010	2011	2012	2013	2014	2015	20µ6	2017	2018	2019	2020
WasteWater operating revenues (Table	/1				· +											
2-4)	\$".757,9944	\$ 8803,824	\$ 844,497	s 887,229	\$ 932,122	\$ 979,288	\$1,028,829	\$1,080,877	\$1,135,558	\$1,193,006	\$1,253,360	\$1,316,768	\$1,383,384	\$1,453,370	\$1,526,897	\$1,604,145
Administrative and General Expenses	200 miles															
Salaries and wages	40.738	42,799	44,965	47,240	10 614	52:142	54,780	57,552	60,464	63,524	66,738	70,115	73,663	77,390	81,306	85,420
Permit fees				6,999	49.631						9,888	10,388	10,913	11,466	12,046	12,655
	6,036	6,341	6,662	0,999	7.303	7,725	8,116	8,527	8,958	9,411		10,388	10,913		• • • •	12,033
Purchased ww treatment	(10,725)		MARKET -	43.928	4.5	1965.17	-		-	-	-	-		-	76.606	70 400
Purchased power	37,882	39,799	41,813	43,928	46,151	48,486	50,940	53,517	56,225	59,070	62,059	65,199	68,499	71,965	75,606	79,432
Chemicals	385	404	425	440	40.	493	518	544	571	600	631	663	696	731	768	807
Meter reading	-	e		2000 - 1980 -		-	-	-	-	-		-	-	-	-	-
Uncollectable accounts (allocated to			421BL	57 <u> </u>											- 100	
water)	3,224	3,387	3,559	3,739	3,928	4,127	4,335	4,555	4,785	5,027	5,282	5,549	5,830	6,125	6,435	6,760
Outside services	47	49	52	. 55	57	60	63	66	70	73	77	81	85	89	94	99
IT Department	-	-	-	- 12	1	-		94.59 <del>-</del>	-	-	-	-	-	-	-	-
Rent	-	-	-	1963	. 1	-	120 PM 1 128	<u> </u>	-	-		<del>-</del>		<u>-</u>	<u>-</u>	<u>-</u>
Office supplies	392	411	432	454:	477	501	526	553	581	610	641	674	708	744	781	821
Billing and customer service		-	-	2029	+			-	-	-	-	-	-	-	-	
Insurance	4,245	4,459	4,685	4,922	5,171	5,433	5,708	5,996	6,30D	6,619	6,953	7,305	7,675	8,063	<b>8,47</b> 1	8,900
Office utilities	729	765	804	845	<b>-58</b> 88	932°	• 980	1,029	1,081	1,136	1,193	1,254	1,317	1,384	1,454	1,528
Miscellaneous expense	4,568	4,799	5,042	5,297	<b>"5,</b> 56 <b>5</b>	5.847	6,143	6,453	6,780	7,123	7,483	7,862	8,260	8,678	9,117	9,578
Expenses allocated from WSC	73,615	77,340	81,253	85,365	89,684	94,222	98,990	103,999	109,261	114,790	120,598	126,700	133,111	139,847	146,923	154,357
Short term interest expense	540	567	595	626	657	691	725	762	801	841	884	929	976	1,025	1,077	1,131
Subtotal	\$ 161,674	\$ 181,122	\$ 190,287	\$ 199,915	\$ 210,031	\$ 220,658	\$ 231,824	\$ 243,554	\$ 255,878	\$ 268,825	\$ 282,428	\$ 296,719	\$ 311,733	\$ 327,506	\$ 344,078	\$ 361,488
						5	* 1		7.55 55	9						
Sewer Operating Expenses							F	40.15	\$4.		<i>545</i> 99					
Salaries and wages	242,591	254,866	267,762	281,311	<b>295,5</b> 45	310,499)	326,211	342,717	360,058	378,277	3971,418	417,528	438,654	460,850	484,169	508,668
Sewer plant maintenance	59,284	62,284	65,435	68,746	72,225	75,880	79,719	83,753	87,991	92,443	97,121	102,035	107,198	112,622	118,321	124,308
Sludge/rodding	26,046	27,364	28,749	30,203	31,732	33,337	335@24	36,796	38,658	40,614	42,669	44,828	47,097	49,480	51,983	54,614
Maintenance of facilities	5,280	5,547	5,828	6,123	6,433	6,758	7,100	7,459	7,837	8,233	8,650	9.088	9,547	10,030	10,538	11,071
Operators expense	2,729	2,867	3,012	3,1664	3,324	3,492	3,669	3.855	4,050	4,255	4,470	4,696	4,934	5,183	5,446	5,721
Testing	-	-	-	_	1	-		٠	_	´-	4-70V	. Jū	-	-	_	-
Subtotal	335,929	352,927	370,785	389,547	409,258	429,966	451,723	474,580	498,594	523,822	550,328	578,174	607,430	638,166	670,457	704,382
Dammalada	06.169	00.004	105.042	110.250	115.042	191 000	127,972	134,447	141,251	148,398	155,907	163,796	172,084	180,791	189.939	199,550
Depreciation	95,168	99,984	105,043	110,358 153,755	115,942 161,534	121,809 169,708	178,295	187,317	196,795	206,753	217,215	228,206	239,753	251,885	264,630	278,020
Taxes other than income	132,592	139,301	146,349				-	-		(2,022)	(2,124)	(2,231)	(2,344)	(2,463)	(2,588)	(2,719)
Amortization tax credit	(1,297)	(1,362)	(1,431)		(1,580)	(1,659)	(1,743)	(1,832)				(2,231)	(1,884)	(1,979)	(2,388)	(2,185)
Amortization tax PAA	(1,042)	(1,095)	(1,150)		(1,269)	(1,334)	(1,401)	(1,472)	7 77 7 77	(1,625)	(1,707)	(65,753)	(69,080)	(72,575)	(76,248)	(80,106)
Amortization of CIAC	(38,204)	(40,137)	(42,168)	(44,301)	(46,543)	(48,898)	(51,372)	(53,972)	(56,703)	(59,572)	(62,586)		338,528	355,658	373,654	392,561
	187,218	196,691	206,643	217,099	228,085	239,626	251,751	264,489	277,873	291,933	306,705	322,224	338,328	333,038	3/3,034	392,301
Total operating income before income ta	\$ 73 174	\$ 73,084	\$ 76,782	\$ 80,667	\$ 84,749	\$ 89,037	9 93,532	\$ 98,254	\$ 103,214	\$ 108,426	\$ 113,900	\$ 119,651	\$ 125,693	\$ 132,040	/\$ 138,708	\$ 145,713
Income taxes	\$ 15.074	\$ 15.055	\$ 15,817	\$ 16,617	\$ 17,458	\$ 18,342	3 19,268	\$ 20,240	\$ 21,262	\$ 22,336	\$ 23,463	\$ 24,648	\$ 25,893	\$ 27,200	\$ 28,574	\$ 30,017
Net operating income	\$ 58,100	\$ 58,029	\$ 60,965	\$ 64,050		\$ 70,696		\$ 78,014	\$ 81,952		\$ 90,437	\$ 95,003	\$ 99,800		\$ 110,134	\$ 115,696
•	,		,.		T .											
								-								

Table 2-4
Carolina Water Service, York County Service Area
Wastewater Utility Operating Revenues and Revenue Requirements

		38,673 (1.63 kg/s/			20.3038	80.088	e									
	2005	2006	2007	2008	2009	2010	<b>2</b> 011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		9 4 4	Japan Japan Jaron J	are particular to the second seco	4.5%	Sec. 1	2.87									
Operating expense (Table 2-1)	\$ 497,603	\$ 534,049	\$ 561,072	-\$:S <b>589,462</b>	\$ 619,289	\$ 650,625	\$ 683,546	\$ 718,134	\$ 754,471	\$ 792,648	\$ 832,756	\$ 874,893	\$ 919,163	\$ 965,672	\$1,014,535	\$1,065,871
Depreciation	95,168	99,984	105,043	110,358	115,942	121,8099	127,972	134,447	141,251	148,398	155,907	163,796	172,084	180,791	189,939	199,550
Amortization	(40,542)	(42,593)	(44,749)	(47,91B)	).(.(4 <del>49,392)</del>	(51,891)	f;(5(545917)	(57,275)	(60,173)	(63,218)	(66,417)	(69,778)	(73,308)	(77,018)	(80,915)	(85,009)
Takes other than income	132,592	139,301	146,349	153,755	161,534	169,708	178,295	187,317	196,795	206,753	217,215	228,206	239,753	251,885	264,630	278,020
Income taxes	19,218	13,542	14,227	14,947	15,703	16,498	17,323	18,189	19,099	20,055	21,059	22,113	23,220	24,383	25,604	26,887
Subtotal	\$ 704,038	\$ 744,281	\$ 781,942	\$ 821,508	\$ 863,076	\$ 906,748	\$ 952,620	\$1,000,812	\$1,051,443	\$1,104,635	\$1,160,519	\$1,219,230	\$1,280,911	\$1,345,713	\$1,413,794	\$1,485,319
				124	gre (			. v. 4								
Allowed return					34 \$11 40 411											
Allowable O&M expense	704,038	744,281	781,942	821,508	863,076	906,748	- 952,620	1,000,882	1,051,443	1,104,635	1,160,519	1,219,230	1,280,911	1,345,713	1,413,794	1,485,319
Rate of return	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	" 8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Return	\$ 56,323	\$ 59,542	\$ 62,555	\$ 65,721	\$ 69,046	\$ ''72;540'	\$ 76,210	\$ .80,065	\$ 84,115	\$ 88,371	\$ 92,842	\$ 97,538	\$ 102,473	\$ 107,657	\$ 113,104	\$ 118,826
m . i	A 500 500		A 044 400				· · · · · · · · · · · · · · · · · · ·		** ***	ومنحا هداه وم		** ** * **	** ***	** ***	44 50 4 000	44 (04 ) 42
Total revenue acquirement/revenues	\$ 760,361	\$ 803,824	\$ 844,497	\$ 887,229	\$ 932,122	\$9979,288	\$1,028,829	\$1,080,877	\$1,135,558	\$1,193,006	115.0	\$1,316,768	\$1,383,384	\$1,453,370	\$1,526,897	\$1,604,145
							77	10.50	41	48 A	15.44					

Table 2-5
Carolina Water Service, York County Service Area
Water and Wastewater Mility Valuations Using Income Approach

Discount rate		8.00%	:		5"		\$7																	
Water System			iler TV		ا المراجعة المراجعة			202				2010		2044		2012				2014			_	
Net operating income (Table 2-1)	<del>-</del>	<b>2005</b> 74,074	\$	<b>2006</b> 52,1944	r¢	2007.	4	.2008 57517,610	\$	<b>2009</b> 60,525	\$	<b>2010</b> 63,587	\$	<b>2011</b> 66,767	\$	<b>2012</b> 70,107	\$	<b>2013</b> 73,615	\$	77,298		\$		0 <b>94</b> 553,987
Present value factor	Ψ	1.0000		0:926	; Ф	0.857	**	0.794	Ψ	0,735	Ψ	0.681	Ψ	0.630	Ψ	0.583	Ψ	0.540	Ψ	0.500	 	Ψ	-,	0.001
Present value of net operating income	\$	74,074	\$	48,328	\$	47:012	\$		\$	44,488	\$	43,277	\$	42,075	\$	40,907	\$		\$		n.	\$		2,813
25-year present value (rounded) In perpetuity	<b>\$</b> \$	931,000 1,638,000					i a		- 100 - 100			eri ke		ti Aas										
Wastewater System						77.1					_		_7		_				_			_		
Net operating income (Table 2-3)	\$	58,100	\$	58,029	\$	60,965	\$	,	\$	67,291	\$	2.0	\$	96	\$	78,014	\$	,-	\$	•	•••	\$	3,0	000,432
Present value factor Present value of net operating income	\$	1.000 58,100	\$	0.926 53,730	\$	0.857 52,268	\$	0.794 50,845	\$	"00.7735   49,461   1	\$	0.681 4 <b>8,114</b>	2.7	0.630 46,799	\$	0.583 45,520	\$	0.540 44,276	\$	0.500 43,066	 !!.;	\$		0. <b>00</b> 3,180
25-year present value (rounded) In perpetuity	\$ \$	1,014,000 1,809,000						**************************************			1 (S) (A) (S) (A) (A) (A) (A) (A) (A) (A) (A) (A) (A			and the second										

Table 2-6
CWS Development History

CWS System Area or Subdivision	Year Included
River Hills, Hamilton's Bay, Lake Wylie Woods, T-Bones, and Phase 1 of Forest Oaks	1973
Mill Creek Falls, The Landing, Five Point Acres, Shoppes at the Landing, BP Station, Bethel Commons	1998
Forest Oaks, Autumn Cove, Village at Lake Wylie, Medical Offices, Shell Station	2000
The Landing, Townhomes at Autumn Cove	2002
The Goves	2004
Carolina Coves	2005
The Coves, Lake Forest/Misty Woods, Harpers Green, Heron Cove, Shoppes at the Landing, Clover School	2006

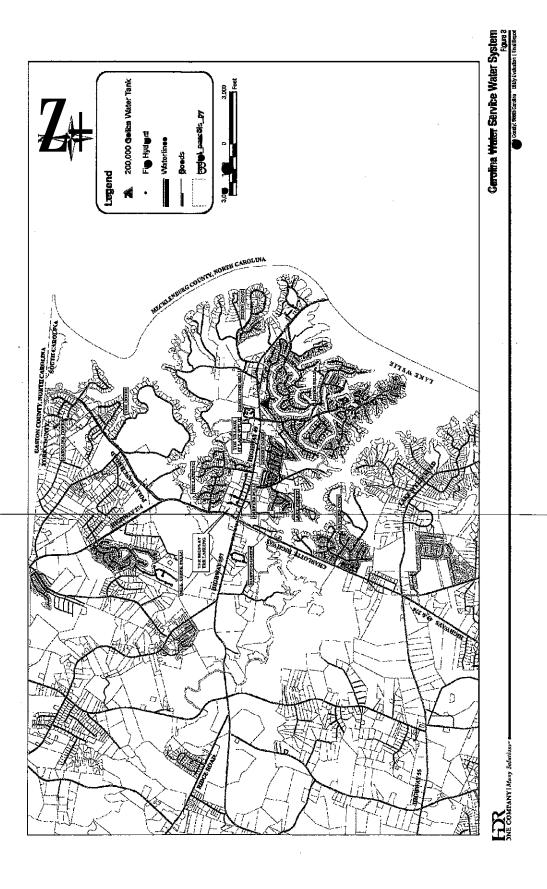
Figure 3 presents the GIS location data for the CWS Water System, and Figure 4 presents the GIS location data for the Wastewater System;

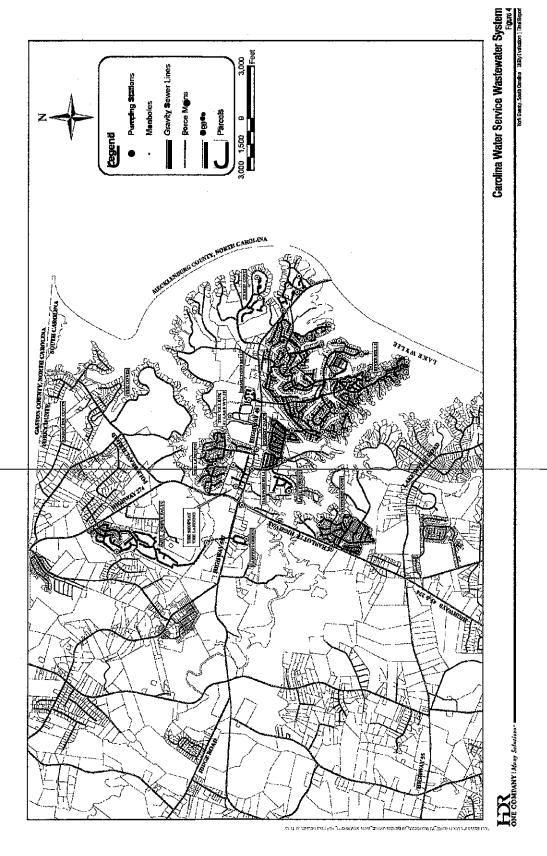
# Site Inspection

Site inspections were visual in nature, involving above-ground assets. Underground assets, primarily pipe, were assessed considering age, type, and estimated useful life. Reviews of photographs taken by County Public Works staff for pumping stations in the River Hills area were made to consider, spe pumping stations. Where mapping data was unclear, field investigations were conducted and a meeting was held in the County Public Works offices between HDR, the County, and CWS field personnel to resolve questions. A Freedom of Information Act (FOIA) request was filed with the SC Department of Health and Environmental Control (RHEC) regarding, the CWS System. HDR staff reviewed DHEC files on the CWS system and found that there are no active Consent Orders or regulatory actions currently in effect for the CWS system in the Scounty. A major portion of this task involved a meeting and communication with ORS and PSC staff regarding the CWS system.

# Replacement Costs

Replacement costs for the assets, including pipes, force mains, hydrants, manholes, pumping stations, tanks, and other collection or distribution system assets were developed from recent engineering bid documents obtained by HDR. Unit pricing was developed from bid tabulations for 23 HDR designed water and sewer projects recently bid in the Carolinas and updated for May 2007 costs using the Engineering News Record Construction Cost Index (CCI). Unit pricing using this approach was used to estimate the system replacement costs.





Replacement costs for real estate assets, such as land and buildings, were based on the most recent assessed value for property tax purposes. It should be noted that only four properties are listed under CWS control. Property ownership of the land for many pumping stations was not found and, therefore, property value is not included in this valuation.

Appendix A includes replacement cost data by year of incorporation into the CWS system.

# Depreciation

Based on the available information, there is no basis to suggest that the assets will not reach their estimated useful life given current levels of management. Conversely, there is no evidence to suggest that the assets will significantly exceed their estimated useful lives. As a result of these uncertainties, this analysis assumes that an asset's age in reliation upoils estimated useful life adequately represents its current condition,

However, determining the age of the assets for purposes of calculating accumillated depreciation was not as straightforward. In response to the uncertainty of these ages, historical "as-built" construction documents were examined for most of the CWS' subdivisions. These "as-built" documents are dated and show approximately when 'each new subdivision or phase was constructed. It was assumed that the water and wastewarder inforastructure in each subdivision is equal to the subdivision's age,

Table 2-7 summarizes the assets' anticipated useful life used to estimate depreciation.

Table 2-7
Assumed Useful Lives of CWS Assets

	Asset Class	Useful Life, Years
	Water and Sewer Lines and Appurtenances	50
4	Pumping Stations	35
i.	Services	40
	Elevated Tank	60
	Property	Indefinite

# **Derivation of Replacement Cost Less Depreciation**

Table 2-8 summarizes the inventory of the CWS system assets, their replacement costs, and their replacement costs less depreciation. Based on this analysis, the estimated replacement cost of CWS' major assets is \$28.2 million, which includes both the water and wastewater systems. The replacement cost less depreciation for the combined system is estimated to be \$14.5 million, Similar to the income capitalization approach, this estimate does not include financial assets or liabilities, and does not include a reduction in the value for CIAC.

Summary of CWS System Assets and Replacement Costs

Area	Year Const	ructed	Re	eplacement Cost	Useful Life	Remaining Value
Water and Sewer System - 1973		1973	\$	9,951,476	50	\$ 3,184,472
Water and Sewer System - 1998		1998	\$	3,341,622	50	\$ 2,740,130
Water and Sewer System - 2000		2000	\$	2,667,860	50	\$ 2,294,359
Water and Sewer System - 2001		2001			50	\$ -
Water and Sewer System - 2002		2002	\$	1,429,639	50	\$ 1,286,675
Water and Sewer System - 2004	144.60° (1.00° ) (1.00° )	2004	\$	176,298	50	\$ 165,720
Water and Sewer System - 2005		2005	\$	459,655	50	\$ 441,269
Water and Sewer System - 2006		2006	\$	1,762,901	50	\$ 1,727,643
Water and Sewer System - 2007		2007			50	\$ -
<b>Pumping Stations</b>	Varies		\$	3,550,000	Varies	\$ 1,752,143
Services		1973	\$	4,342,538	40	\$ 651,381
Elevated Water Storage Tank		1973	\$	475,000	60	\$ 205,833
Property	N/A		\$	. 29,560		\$ 29,560
Totals			<b>\$</b> 28	3,28318655418		\$ 14,479,185.15
Less Contributions in Aid of Construction (\$6.1 million as reported to ORS	7		cilitie	s in 2006)		\$ (7,834,388)
Net value, RCLD						\$ 6,644,797.65

#### **Contributions in Aid of Construction**

It was noted in the Income Capitalization Approach section, that many of the CWS assets are in the form of CIAC and therefore they are not included in the utility's rate base. For purposes of consistency, it is reasonable that these assets should also be removed from consideration under the RCLD approach because CWS did not pay for them. As a result, this analysis subtracts CIAC from the RCLD estimate.

However, it is important to note that CIAC is subtracted based on the original cost of the contributed asset in question, rather than that asset's replacement cost. It raises the question of who should receive the benefit of the asset's appreciation over time. The analysis assumes that this appreciation should accrue to its current owner because they are currently assuming the risk of that asset's failure. Therefore, the value of the CIAC will be dedicted from the RCLD value at its original cost, rather than its replacement cost. Documents submitted by CWS to the ORS reported CIAC of \$6,107,000 at the end of 2005. Although it is known that approximately \$2.6 million has accrued to the water utility and \$3.5!thillion to the wastewater liftlity, a direct link between these sums and specific assets cannot be made. In addition, it has been assumed that assets added in 2006, totaling \$1.7 million, as shown in Table 2-8, have been contributed. As a result, the total value of \$7.8 million (\$6.1 million plus \$1.7 million) is deducted from the combined value of the water and wastewater utilities to estimate net RCLD.

# **Comparable Sales Method**

The comparable sales method uses values from recent sales of existing water and wastewater utilities as its basis. Sales prices are typically normalized to adjust for differences in system size and other characteristics.

The sources of data used for this method are varied; resulting in a range of estimated values using this approach. Sources for comparable sales data included:

- HDR Engineering's final report to Brunswick County, North Carolina (2003), supporting the purchase of Carolina Blythe Utilities (CBU) water and wastewater systems. This report considered approximately 24 comparable sales, primarily transacted in the Charlotte area during the mid-1990s. The North Carolina Utilities Commission identified the transactions, the sales price, and the number of customers for each system. The comparable sales appeared to represent fairly new and small "developer" systems, although information was generally lacking for these comparables. For CBU, the comparable sales estimate was several times higher than valuation estimates using the income approach or RCLD approach. Considering inflation, these comparable sales would suggest that the River Hills system's value is approximately \$2,367 per account for the water system and \$4,339 per account for wastewater. Multiplying by CWS accounts yields a total estimated value of \$15.9 million (Table 2-9).
- Studies in 1998 by Hartman and Associates for York County directly addressed the comparable sales value of the River Hills system. Based on extensive analysis of comparable sales primarily in North Carolina, Hartman's initial study estimated a value of the water and wastewater systems to be \$1,363 and \$1,951 per single family equivalent

(SFE), respectively, adjusted to 2007 dollars (Table 2-9). This results in a combined system value of \$11.6 million if the current number of River Hills system SFEs is considered. A second study focused upon sales in the Charlotte region and would result in a combined system value of \$10.7 million for the River Hills system.

• Few recent comparable sales from South Carolina were available. Correspondence for this evaluation with the NC Public Utilities Commission indicated that there have been no recent comparable sales finalized in North Carolina. The ORS provided information on three sales in various parts of South Carolina during 2006, including utilities in Cayce, Aiken, and Dorchester Counties. The average of two wastewater system sales was \$1,533 per account; the single combined system sales was approximately \$2,300 per account for both utilities. Table 2-9 summarizes how these prices translate to the River Hills system

Table 2-10 summarizes the comparable sales estimates generated from the above data sources. As shown, it appears that total system value may vary from about \$5.5 frijiio to almost \$16 million. Little information is available about the specific characteristics of the comparable sales that result in this wide range of values. Factors contributing to this variability would include the relative age of the systems, the overall size of the system, presence of treatment facilities, and the level of CIAC. On a per account basis, higher levels of developer contributions would tend to lower the sales price because there is less potential rate base for private purchasers to profit from.

The Hartman estimates fall within this wide range of comparable sales values and directly address the CWS system. This results in relatively more weight given to these studies, though they are dated from a 2007 perspective. However, for purposes of this analysis, the comparable sales value for the combined CWS system is estimated to be the average of the two updated Hartman and Associates studies, or \$11.2 intillion (rounded).

# Summary of the Valuation Estimates

Table 2-11 summarizes the total estimated value of each utility enterprise under each valuation approach. Additional information regarding the value of the CWS typiem, including financial assets such as each and accounts receivable toverve accounts held in exerow, and liabilities such as accounts populable and debt service, are not considered here! Khese valifes will be the same regardless of how CWS is valuated and were consequently not considered in this introduction.

Table 2-11 shows that the income approach yields the lowest value and the comparable sales approach yields the thinghest walue with a difference of nearly \$8 million between them. The RCLD approach lies between but is slightly closer to the replacement cost estimate. Overall, the range of estimated valles is quite wide. A possible explanation for the income approach yielding a significantly lower estimate may be the constraint placed on the owner's return, due to a lack of rate base. Due to lack of rate base, the ORS constrains CWS profit to a rate of return on operating expenditures.

No attempt has been made to conclude if one of the methods is more appropriate for this application than others. Each has relative strengths and limitations. A simple average of the three values yields a value of \$7.7 million. Regardless of the estimated value of the CWS system, its integration with the County's system is one of the more important tests of this potential utility acquisition.

Table 2-9
Carolina Water Service, York County Service Area
Comparable Utility Sales in North Carolina and South Carolina

	Water	Sewer	Coml	oined systen
Previous HDR Study, Carolina Blythe Utilities, 2002				
Average Price Per Actionnt, as of 2002	\$1,949	\$3,572		
CCI, 2002-07	1.2147	1.2147		
Average prices per account, adjusted to 2007	\$2,367	\$4,339		
Number of accounts	2,549	2,276		
Estimated value using average of comparable sales	\$6,034,397	\$9,875,705		\$15,910,10
Hartman Associates	Water	Sewer		
Estimated price per SFE for River Hills system	\$1,016	\$1,454		
CCI, 1998-2007	1.3416	1.3416		
Average price per SFE, adjusted	\$1,363	\$1,951		
Number of SFE's	3,634	3,412		
Estimated value using average of comparable sales	\$4,953,380	\$6,655,742		\$11,609,12
Hartman Associates, focusing on CMUD-CWS transactions of 1990's Estimated price per SFE for River Hills system' CCI, 1998-2007 Average price per SFE, adjusted				\$2,18 1.3410 \$2,93
Number of SFE's				3,634
Estimated value using average of comparable sales			\$ *>	10,667,319
Using South Carolina ORS data, all 2006 (not adjusted), Cayce and Aik	en	3 125		
Estimated price per customer		\$1,533	, ja	
Number of customers		2,276		
Estimated value using average of comparable sales	, 40. ₹ 2020 (1	\$3,489,093	•	
Using South Carolina ORS data, all 2006 (not adjusted), Dorchester Co	unty			
Estimated price per customer	Today.		\$	2,300
Number of customers				2,413
Estimated value			\$	5,548,750

Table 2-10
Carolina Water Service, York County Service Area
Comparable Sales Summary

	•		Sewer	
	Water	system	system	Total system
Source of comparable data				
HDR Study for Brunswick County, NC, 2002	\$ 6,03	34,400	\$9,875,700	\$15,910,100
Hartman & Associates, 1998a	\$ 4,95	3,400	\$6,655,700	\$11,609,100
Hartman & Associates, 1998b				\$10,667,300
SC ORS data, based on 2 transactions, 2006			\$3,489,100	
SC ORS data, based on 1 transaction, 2006				\$ 5,548,800

Table 2-11
Carolina Water Service, York County Service Area
Summary of Walnation by Approach

		<b>V</b> :	alu	ation approac	:h:	
		Income	F	Replacment cost less		comparable
	. cal	pitalization	d	epreciation		sales
Water system	\$	1,638,000	\$		\$	_
Wastewater system	. \$	1,809,000	\$	-	\$	-
Subtotal	\$	3,447,000	\$	14,479,185	\$	11,200,000
Less Contributed Assets	\$	-	\$	(7,834,388)	\$	-
Net estimated value	\$	3,447,000	\$	6,644,798	\$	11,200,000

All valuations represent analysis done in perpetuity.

Note: RCLD and comparable sales estimates were on the basis of the combined water and wastewater system, and not allocated between the two enterprises.

# APPENDIX A

# SUMMARY OF ASSETS AND REPLACEMENT COSTS 1973-2006

Table A-1
Summary of CWS System Assets and Replacement Costs

	.52/2/2/	2.,27 S.				<del> </del>			
Area	Year Constructed	Replacement Cost.	Useful Life	Remaining Value	Year Constructed	ENR CCI	Installation Cost	Useful Life	Remaining Value
Water and Sewer Systems - 1973	1973	\$9,951,476	50	\$3,184,472	1973	1895	\$ 2,374,471	50	\$ 759,831
Water and Sewer System - 1998	1998	\$3,341,622	50	\$2,740,130	1998	5920	\$ 2,490,859	50	\$ 2,042,505
Water and Sewer System - 2000	2000	\$2,667,860	50	\$2,294,359	2000	6221	\$ 2,089,745	50	\$ 1,797,181
Water and Sewer System - 2001	2001		50	\$0	2001	6343	\$ -	50	\$ -
Water and Sewer System - 2002	2002	\$1,429,638	50	\$1,286,675	2002	6538	\$ 1,176,905	50	\$ 1,059,214
Water and Sewer System - 2004	2004	\$176,298	50	\$165,720	2004	6694	\$ 148,594	50	\$ 139,679
Water and Sewer System - 2005	2005	\$459,655	50	<b>\$\$4411,269</b>	2005	7446	\$ 430,949	50	\$ 413,711
Water and Sewer System - 2006	2006	\$1,762,901	50	\$1,727,643	2006	7751	\$ 1,720,504	50	\$ 1,686,094
Water and Sewer System - 2007	2007		50	\$0	2007	7942	\$ -	50	\$ -
Pumping Stations	Varies	\$3,550,000	<b>Varies</b>	\$1,752,143	Varies		\$ 2,048,502	Varies	\$ 1,456,775
Services	1973	\$4,342,538	40	\$651,381	1973	1895	\$ 1,036,151	40	\$ 155,423
Elevated Water Storage Tank	1973	\$475,000	60	\$205,833	1973	1895	\$ 113,337	60	\$ 49,113
Property	NIA	\$29,560	42	\$29,560	N/A	NA	\$ -		\$ 29,560
Totals		\$28,186,548		\$14,479 <sub>2</sub> 185			\$13,630,017		\$ 9,589,084
Less Contributions in Aid of Const. (CIAC), as reported to ORS in 200.			74. 74.	-\$6,106,745			CWS 2005 CIA	AC	\$ (6,106,745)
Net value, RCLD				\$8,372,440	Installed Cost I	.ess:Dapmoita	iomLess CIAC		\$ 3,482,339

Table A-2 **CWS System Assets Replacement Costs** 

Year Constructed:

1973

River Hills, Hamilton's Bay, Lake Wylie Woods, T-Bones, and Phase 1 of Forest Oakes

Subdivisions:

	Unit Cost		Quantity		Cost
Water Mains				•	Twing 1500
12-in	\$	30.00	2,016	\$	.'60,478.68
10-in	\$	<b>28</b> .000	3,999	\$	111,962.93
8-in	\$	21.00	27:787	\$	583,530.43
6-in	\$	17.00	47,186	\$	802,169.73
4-in	\$	16.00	162,806	\$	204,898.39
2-in	\$	7.00	19,919	\$	139,430.20
Fire Hydrants	\$	2,500.00	<b>8</b> 1	\$	202,500.00
				E.A.	
Sewer System		9			
10-in	\$	45.00		\$	-
8-in	\$ 7	31;00	91,856	\$	2,847,536.00
Manholes	\$	2,372.00	537	\$	1,273,764.00
	1 V 2 V 2 V 2 V 2 V 2 V 2 V 2 V 2 V 2 V				
Force mains		New York			
8-in	- ( <b>)                                  </b>	20.00	124	\$	2,478.15
6-in	<b>\$</b>	18.00	4,295	\$	77,318.20
4ɨlh	\$	15.00	22,830	\$	342, <b>455</b> .21
2-in	j. <b>\$</b> <i>*\</i>	7.00	10,778	\$	75,448.03
	Tala, Na				
Mobilization		5.0%		\$	336,198.50
Restoration	(4.7) (4.7)	30.0%		\$	2,017,190.99
Erosion Control		8.0%		\$	537,917.60
Miscellaneous	7 <u>3</u> 17	5.0%		\$	336,198.50
	Total			\$	9,951,475.53

Table A-3 **CWS System Assets Replacement Costs** 

Year Constructed:

1998

Mill Creek Falls, The Landing, Five Point Acres, Shoppes at the Landing, BP, Station, Bethel Commons

Subdivisions:

	Unit Cost	Quantity	Cost
Water Mains			
12-in	\$ 30.00	9,746	\$ 292,380.00
10-in	\$ 28.00	A Maria	<b>\$</b>
8-in	\$ 21.00	5,370	\$ 112,770.00
6-in	\$ 17.00	13,592	\$ <b>23</b> h@64,00
4-in	\$ 17.00 \$ 16.00 \$ 7.00 \$ 2.500.00	2,345	\$ 37,520.00
2-in	\$ 7.00	6,962	\$ 48,734.00
Fire Hydrants	\$ 2,500.00	28	\$ 70,000.00
Sewer System	00A 2.732.		J.
1100-in	\$ 45.00	514	\$ 23,130.00
8-in	\$ 31.00	28,318	\$ 877,858.00
Manholes	\$ 2,372,00	178	\$ 422,216.00
Force mains	Table 1	i visit	
8-in	\$ 20.00	1901) 1901) 1908	\$ -
<del>6-in</del>	\$ 18.00	<del>3,891</del>	\$ 70,038.00 -
4-in	\$ 15.00	3,956	\$ 59,340.00
2-in	\$ 7.00	1,829	\$ 12,803.00
		* .	
Mobilization	5.0%	1	<b>\$ 112,892</b> .65
Restoration	30.0%	) 	\$ 677,355.90
Erosion Control	8.0%	1	\$ 180,628.24
Miscellaneous	5.0%	1	<b>\$ 112,892.65</b>
	i		•
	Total		\$ 3,341,622.44

Table A-4 **CWS System Assets Replacement Costs** 

Year Constructed:	Гамаст	2000		\\(\frac{1}{2} = \bar{1}	adiaal Offices
Subdivisions:	Shell St		Cove, Village at Lake	vvyile, ivi	edicai Offices,
	U	Init Cost	Quantity	Ala.	Cost
Water Mains				jeda.	
12-in	\$	30.00	2,8	59 \$	85,770.00
10-in	\$	28.00		. <b>\$</b>	-
8-in	\$	21.00	4,1	<b>31</b>	86,751.00
6-in	\$	17.00	14,5		247,894.00
4-in	\$	16.00		\$	_
2-in	\$	7.00	4,1	34 \$	29,288.00
Fire Hydrants	\$	2,500.00		32 \$	80,000.00
Sewer System		•			
100-in	\$	45.00		\$	-
8-in	\$	ு. 31.00	24,8	31 <b>\$</b>	769,761.00
Manholes	\$	2,372.00	MANUAL 1815	42 \$	336,824.00
Force mains				:	
8-in	\$	20.00		\$	-
6-in	\$	18.00	6,1	35 \$	110,430.00
4-in	\$	15.00	3,7	26 \$	55,890.00
2-in	\$	7.00 <sup>×</sup>	er Standard Standard St Standard Standard St	\$	-
Mobilization		5.0%		\$	90,130.40
Restoration		30.0%	427	\$	540,782.40
Erosion Committed	, Yak	8.0%		\$	144,208.64
Miscellaneous		5.0%		\$	90,130.40
The State of the Control of the Cont	- Total			\$	2,667,859.84

Table A-5
CWS System Assets Replacement Costs

Year Constructed: Subdivisions:	The La	2002 anding, Townl	nomes at Autumn co	ve	
	U	nit Cost	Quantity		Cost
Water Mains				×365.	
12-in	\$	30.00	á	\$	
10-in	\$	28.00	<u> </u>	\$	· <u>-</u>
8-in	\$	21.00	4,051	\$	85,071.00
6-in	\$	17.00	∞ 4 <b>,170</b>	\$	70,890.00
4-in	\$ \$	16.00	3,838	\$	61,408.00
2-in	\$	7.00	1,591	\$	11,137.00
Fire Hydrants	\$	2,500.00	9	\$	22,500.00
•		·			A Comment
Sewer System		£ /-			
10-ĺn	\$	45.00		\$	)
8-in	\$	31.00	11,747	\$	364,157.00
Manholes	\$	2,372.00	142	\$	336,824.00
	•	M. ATAVILLE STORMAN		•	
Force mains			#74. (5)	g et <sup>se</sup>	
8-in	\$	20.00		 	-
6-in	Š	18.00		· \$	<u>-</u>
4-in		15.00	713	\$	10,695.00
2-in	Š	7.00.	470	\$	3,290.00
		Ţ,		•	0,200.00
Mobilization		5.0%	\$1. \$1.50 m.	\$	48,298.60
Restoration		30.0%		\$	289,791.60
Erosion Control	Series of the	8.0%	594 V <sup>17</sup>	\$	77,277.76
Miscellaneous		5.0%		\$	48,298.60
Wind Collain Colla		0.076		Ψ	₹0,230.00
	Total			\$	1,429,638.56

Table A-10
CWS System Assets Replacement Costs

Bill Code	Description	Units	Į	Jnit Cost	Total
46001	5/8" Residential Distribution	1,755	\$	690.00	\$ 1,211,180.00
46005	2" Residential Distribution	499	\$	2,350.00	\$ 1,171,866.67
46006	5/8" Residential	1	\$	690.00	\$ 690.00
46007	3/4" Residential Distribution	45	\$	690.00	\$ 30,935.00
46008	1" Residential Distribution	1	\$	900.00	\$ 600.00
46009	5/8" Commercial Distribution	56	\$	-690.00	\$ 38,295.00
46010	1" Commercial Distribution	18	\$	909.90	\$ 15,825.00
460112	21-1/2" Commercial Distribution	on 12		2,050.00	\$ 24,600.00
46013	2" Commercial Distribution	20		2,350.00	\$ 47,000.00
46014	3" Commercial Distribution	4	\$	3,750.00	\$ 15,000.00
46015	3" Residential Distribution	88	1.00	3,750.00	\$ <b>830,000.00</b>
	6" Residential Distribution	53	\$	4,250.00	\$ 226,666.67
46019	3/4" Commercial Distribution	125 Aug 194	\$	690.00	\$ 1,380.00
	Totals	2,553			\$ 3,114,03 <b>8.33</b>
	) (5)			e Ke	
	4" Sewer Lateral	2,730	\$	.4450_ <b>0</b> 0	\$ 1,228,500.00
ı				, A	\$ 4,342,538.33